

REVERE
MODELS T-1100, T-1120, TR-1200REVERE
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GENERAL INFORMATION

Revere Models T-1100, T-1120, and TR-1200 Tape Recorders feature a single three position function knob which performs the electrical and mechanical functions for "Record", "Stop", and "Play" operations. All three units basically incorporate the same tape transport mechanism but differ slightly in amplifier circuitry and component values. The existing differences are best pointed out in the schematic diagrams, exploded views, and mechanical & electrical parts lists.

The Model TR-1200 is the same as Model T-1100 except for the addition of the B199-6 Radio Tuner Sub-Assembly. Model T-1120 is the same as Model T-1100 except for a built-in stereophonic head and preamplifier (B199-11) for the lower channel. Treatment of the subject matter pertain to the machines as being used as a monaural unit and information given for Model T-1100 will cover Models T-1120 & TR-1200 unless noted otherwise.

These units are designed to record two tracks of material on standard width recording tape, which doubles the playing time of a tape reel with no loss of frequency response of quality. Recordings may be made from microphone, phonograph, AM-FM tuner, Hi-Fi systems, external radio or television, in addition to those made directly from the self-contained radio used in Model TR-1200.

CAUTION: Do not use on direct current. Check name plate at rear of recorder for proper current and voltage.

Manufactured by :

Revere Camera Company
320 East Twenty-First Street
Chicago 16, Ill.

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DATE 8-58

SET 410

FOLDER 15

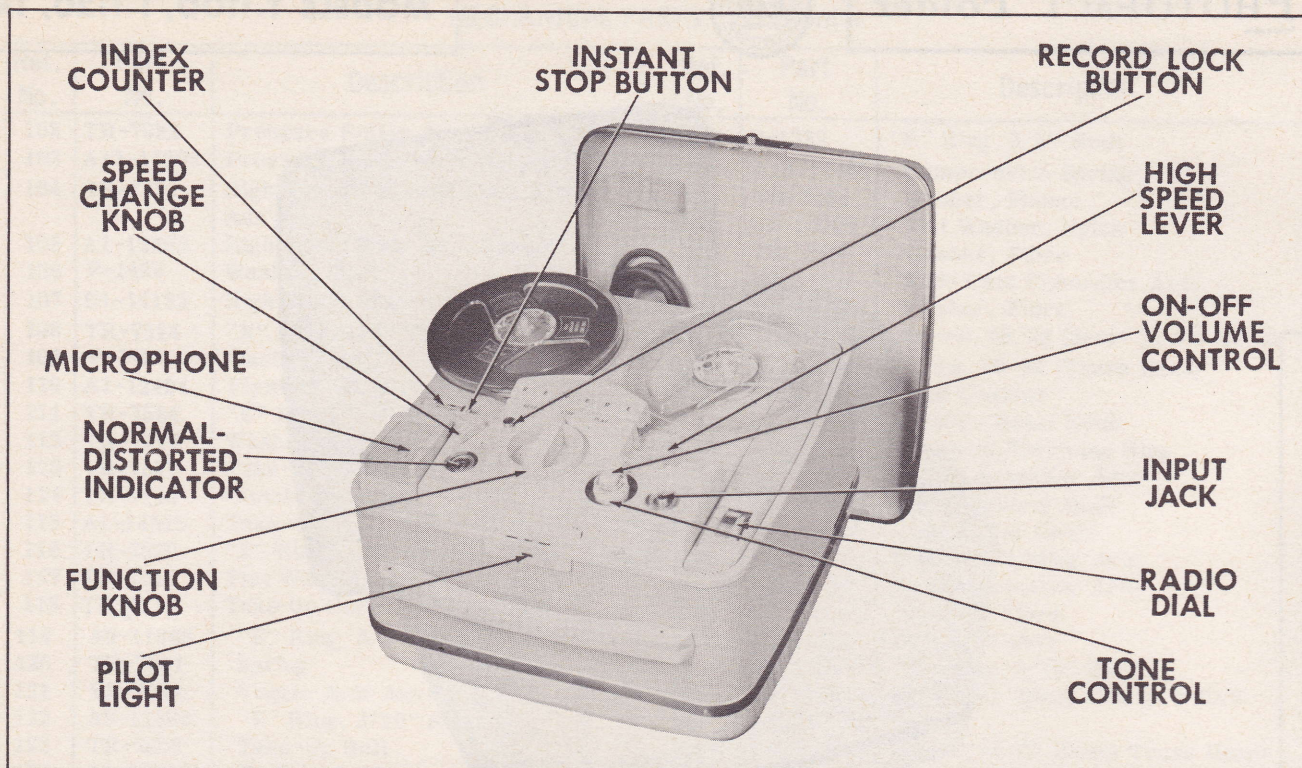


Figure 1.
SPECIFICATIONS

Tape Speeds — 3 3/4 and 7 1/2 ips \pm 2%.

Head — Half track recording head (Models T-1100 & TR-1200).

Head — In-line stacked head with balanced hum bucking construction (Model T-1120).

Frequency Response (Models T-1100 & TR-1200)
 \pm 3db, 85-7000 cps @ 3 3/4 ips.
 \pm 3db, 75-12000 cps @ 7 1/2 ips.

Frequency Response (Model T-1120)
 Upper channel: \pm 3db, 75-13,000 cps @ 7 1/2 ips. \pm 3db, 75-8000 cps @ 3 3/4 ips. (Recording & Playback).

Lower channel: \pm 3db, 75-13,000 cps @ 7 1/2 ips. (Playback only)

Signal To Noise Ratio — Greater than 48 db.

Signal From Lower Channel
 Pre-Amp Output (Model T-1120) — 0.5 — 1.5 volts.

Crosstalk (Model T-1120) — Less than 50 db.

Wow & Flutter — Less than .3% (Both speeds).

Distortion — Overall amplifier and tape distortion at low levels is less than 1%, and at maximum output of 5 watts is 8% at 1000 cps.

Recording Indicator — "Normal" half of indicator indicates 1.5% distortion (or 8db from saturation), and "Distorted" half indicates 8% distortion.

Reel Size — up to 7".

Tracks — Dual.

Track Selection — Manual turnover.

Tape Loading — Drop-in-slot type.

Fast Forward & Rewind — Approximately 90 seconds on a 7" reel (1200 ft.)

Playing Time (7" Reel) — 2 hours @ 3 3/4 ips (1 hour each track).
 1 hour @ 7 1/2 ips (1/2 hour each track).

Inputs — Microphone input (short plug) 10 megohms impedance; accepts voltages from 500 microvolts to 0.2 volts. Radio-Phono input 1 megohm impedance; operates with voltages from 0.025 to 10 volts.

Output — 3.2 ohm with negative feedback suitable for direct connection to 3-4 ohm speakers, high impedance amplifier inputs, or earphones.

Size — 9 1/2" x 14" x 13 1/2" (approx.)

Weight of Recorder — 27 lbs.

Power Requirements — 105-120 Volts AC, 60 Cycles.

Power Consumption — 90 Watts (Model T-1100).
 100 Watts (Model TR-1200).

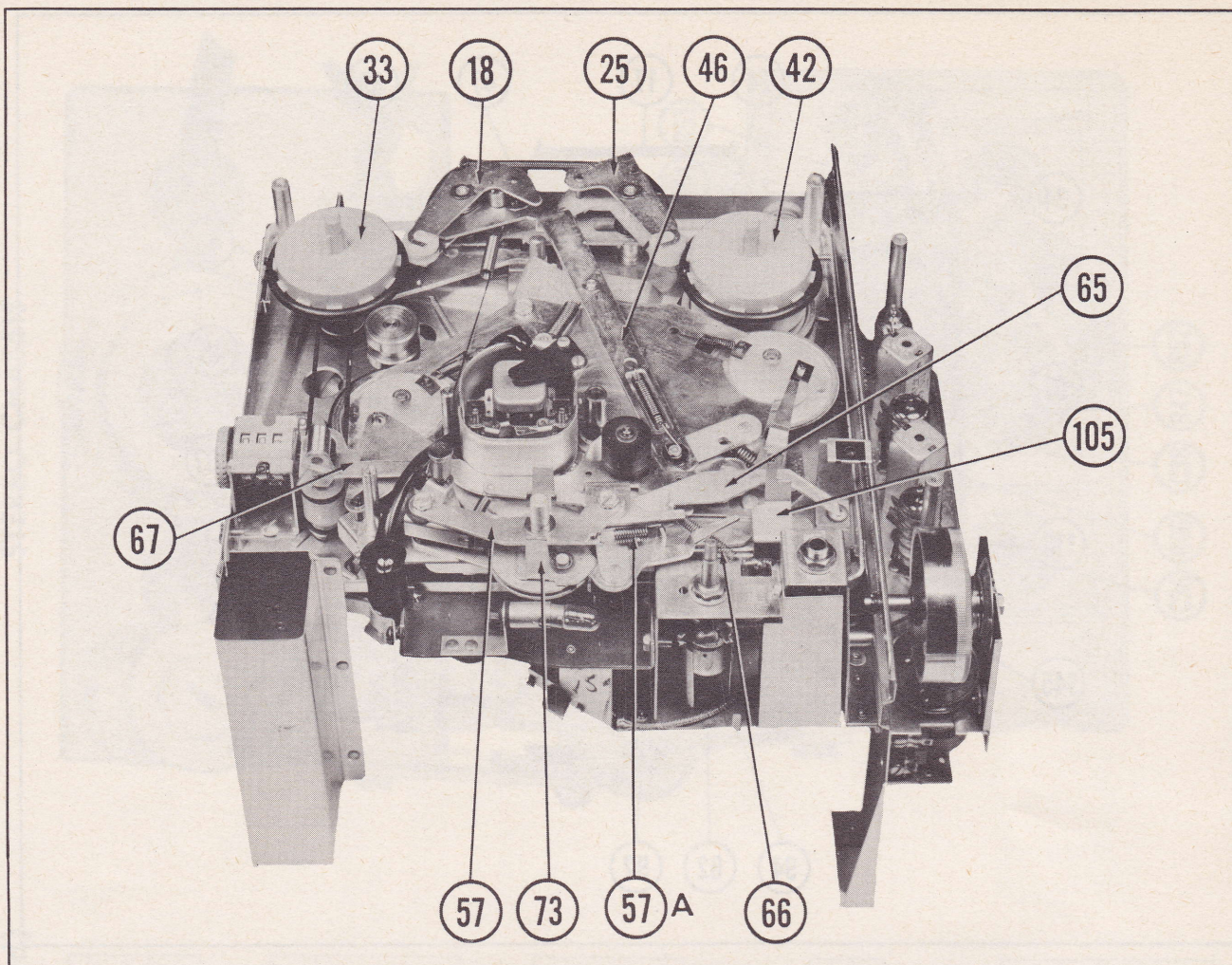


Figure 2.

FUNCTIONS OF CONTROLS, INDICATORS & SWITCHES

(Refer to Figure 1.)

On-Off-Volume Control

Initial clockwise rotation of this control supplies power to the entire recorder; further rotation regulates the volume for both the recording and play-back operations.

Tone Control

This control is designed to give three distinct tonal extremes, and can be varied continuously between them to produce a blend of tone suitable to any type of program. The tone control is automatically disconnected when recording.

Function Knob

All electrical and mechanical functions for "Play" and "Record" operations are performed by this single three position knob. Also, for convenience and protection, the Function Knob is returned to "Stop" position when the power On-Off-Switch is turned off, thus disengaging all pressure pads and rubber idlers.

Speed Change Knob

Operation of this knob selects either 3 3/4 ips, (slow speed, "S"), or 7 1/2 ips, (fast speed, "F"), tape speeds while the recorder is in any function. The fidelity on 7 1/2 ips selection is greater insofar as recording-reproduction is concerned.

Automatic Record Lock Button

This is a safety device preventing the Function Knob to be turned to "Record" position, thus guarding recordings from accidental erasure. The Lock Button is re-set whenever the Function Knob returns to the "Stop" position. To make a recording, the Record Lock Button must be depressed before Function Knob can be turned to "Record" position.

Rapid - Forward Rewind Lever

This lever is used to skip ahead to any point on the tape or to rewind tape onto the supply reel. By moving this lever back & forth the tape can be inched along in either direction to find an exact point on the tape. This lever can be moved while the Function Knob

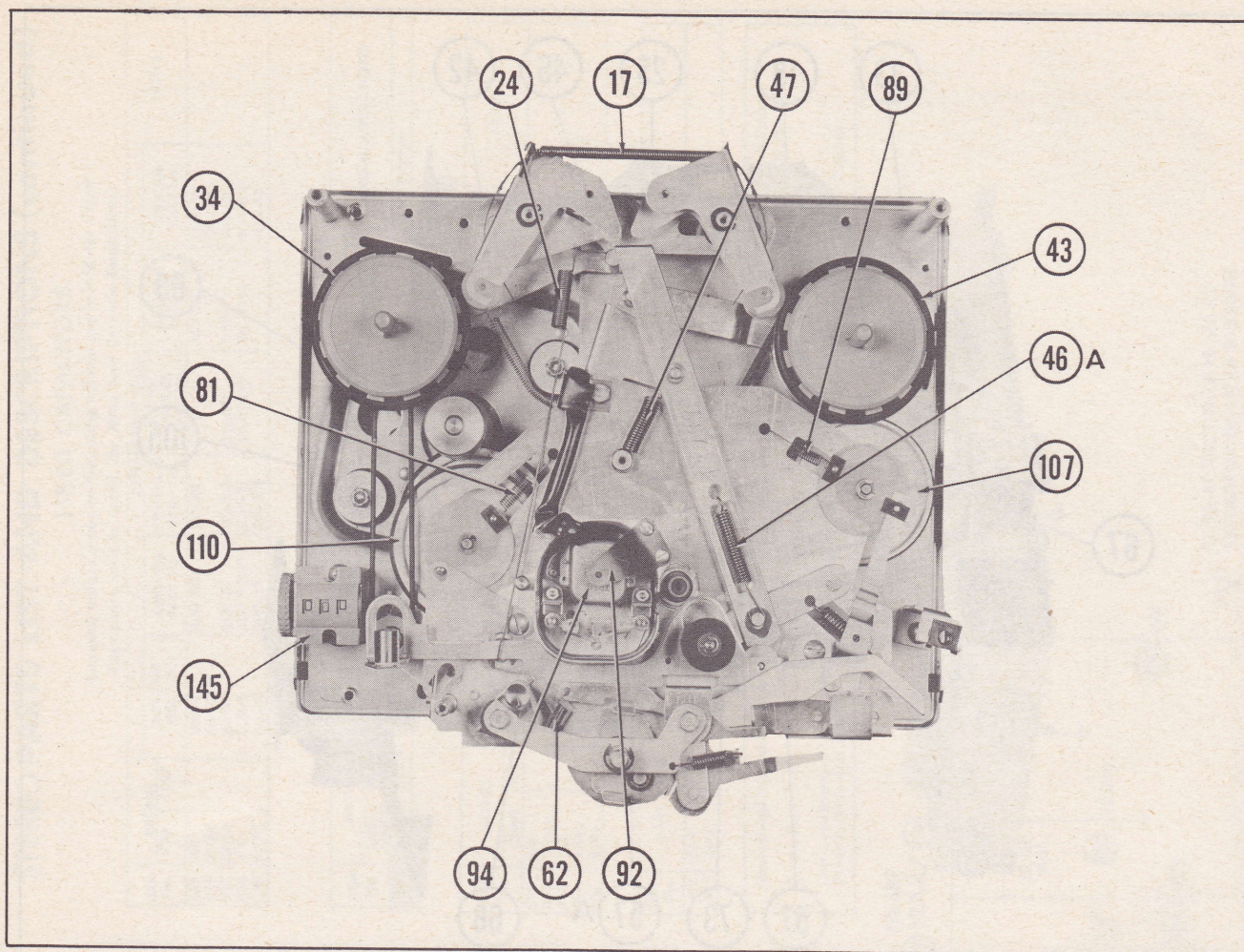


Figure 3.

is in either "Record" or "Play", and the lever will automatically return the Function Knob to "Stop".

Manual Start-Stop Button

This button is provided to instantly stop the tape in either "Record" or "Play" functions. Examples of its use are: to prevent recording of unwanted breaks in radio programs; to noiselessly hold back the tape for instantaneous starts in either "Record" or "Play" functions; to precisely pre-set the record level while the Function Knob is in "Record" position; to momentarily stop tape in transcribing.

Record Level Indicator

This indicator takes the guesswork out of setting the recording level. The volume control should be adjusted until the "Normal" half of the indicator flashes and no flashing occurs at the "Distorted" half. If it is desired to pre-set the level in "Stop" position, turn the tone control to treble.

Index Counter

This is a precision revolution Counter enabling

pinpointing of selections. The Counter is re-set by turning the Counter wheel back.

Dual Hi-Lo Input Jack

The Input Jack is designed to make the proper selection between the low level microphone (requires short input plug, 15/16" long) or high level radio-phono connection (requires long input plug, 1 3/16" long), thus making two input jacks unnecessary. When the longer input plug (three circuit) is used, the speaker is automatically connected for monitoring in "Record" position or for public address in "Stop" position. When the shorter plug is used, the speaker is left disconnected. Regardless of which input plug is used, in both cases the built-in radio used in Model TR-1200 is disconnected.

Output Jack

Located on the rear panel, this jack can be used to connect accessories such as a remote speaker (3.2Ω), or earphones. The Attachment Cord can be used for this purpose. See Auxiliary Parts List page 24 for listing of accessory parts. The speaker in the recorder is automatically disconnected whenever a plug is inserted in the Output Jack.

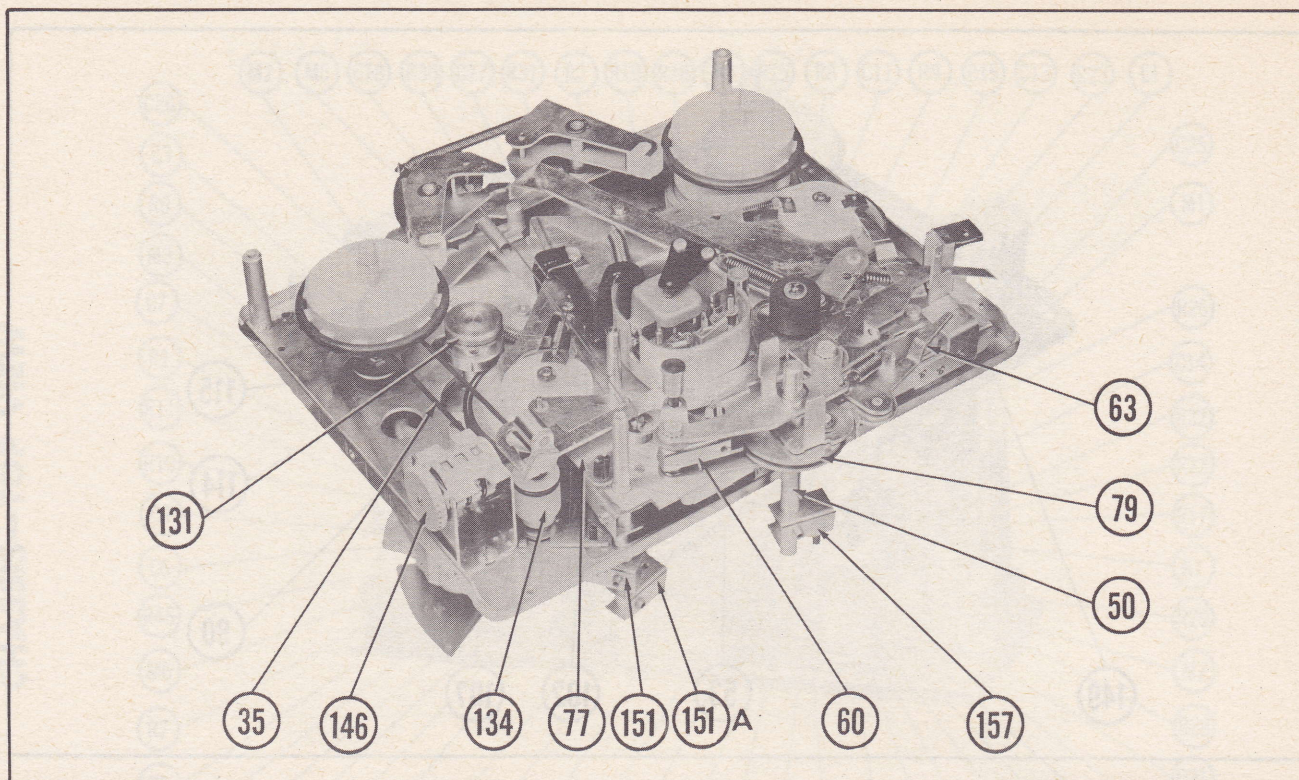


Figure 4.

OPERATING INSTRUCTIONS

Threading The Tape

1. Plug line cord in socket provided at the rear of recorder, and plug the line cord plug into a convenient wall receptacle of the proper rating as specified on name plate.

2. Place full supply of tape (glossy side out, i.e. "A" wind) on left spindle and empty reel on right spindle, making sure the reels are fully seated.

3. Unwind about 14" of tape from the supply reel. Hold a section of the tape straight with both hands and insert the tape in the tape slot making sure the dull coated side of the tape faces the rear of the recorder. Feed the end of the tape into one of the radial slots in the empty reel. Rotate the reel counterclockwise until the tape is secured and all slack is taken up between reels.

To Record From Microphone

Note: The Revere automatic high frequency erase removes previous recorded sound when new material is recorded; therefore, no special step is necessary to erase recordings before new recordings are made. The Erase functions only when the Function Knob is in "Record". By turning the volume control down, the recorder will erase without putting new sound on the tape.

1. Insert microphone plug firmly into input jack.
2. Turn tone control to treble, and while talking into the microphone adjust the volume control until

"Normal" half of indicator flashes and no flashing occurs at the "Distorted" half.

3. Set the index Counter to zero. While holding the Record Lock Button in its depressed position, turn the Function Knob to "Record" position.

To Record From Radio, TV, Or Phonograph

1. To Record From Radio or T.V. — Insert Attachment Cord plug into the input jack on the recorder. Connect the cord clips to the radio or T.V. speaker terminals. Proceed with recording as described in "To Record From Microphone".

2. To Record From Phonograph — Insert standard phono plug, used with most crystal or magnetic type phonographs, into input jack on recorder. If standard phono plug is not used, Attachment Cord may be used. Proceed with recording as described in "To Record From Microphone".

Monitoring Recordings

The longer 1-3/16" standard phone plug, when inserted in the input, turns on the recorder speaker for monitoring radio, T.V., or phono. To monitor mike recordings, a high impedance headset can be plugged into the output jack. Monitoring mike recordings from the recorder's speaker can be accomplished by using the microphone P.A. extension cord accessory. (See Auxiliary Parts List). With this cord, the speaker is connected for Public Address in "Stop" position and Speaker Monitoring in "Record" position.

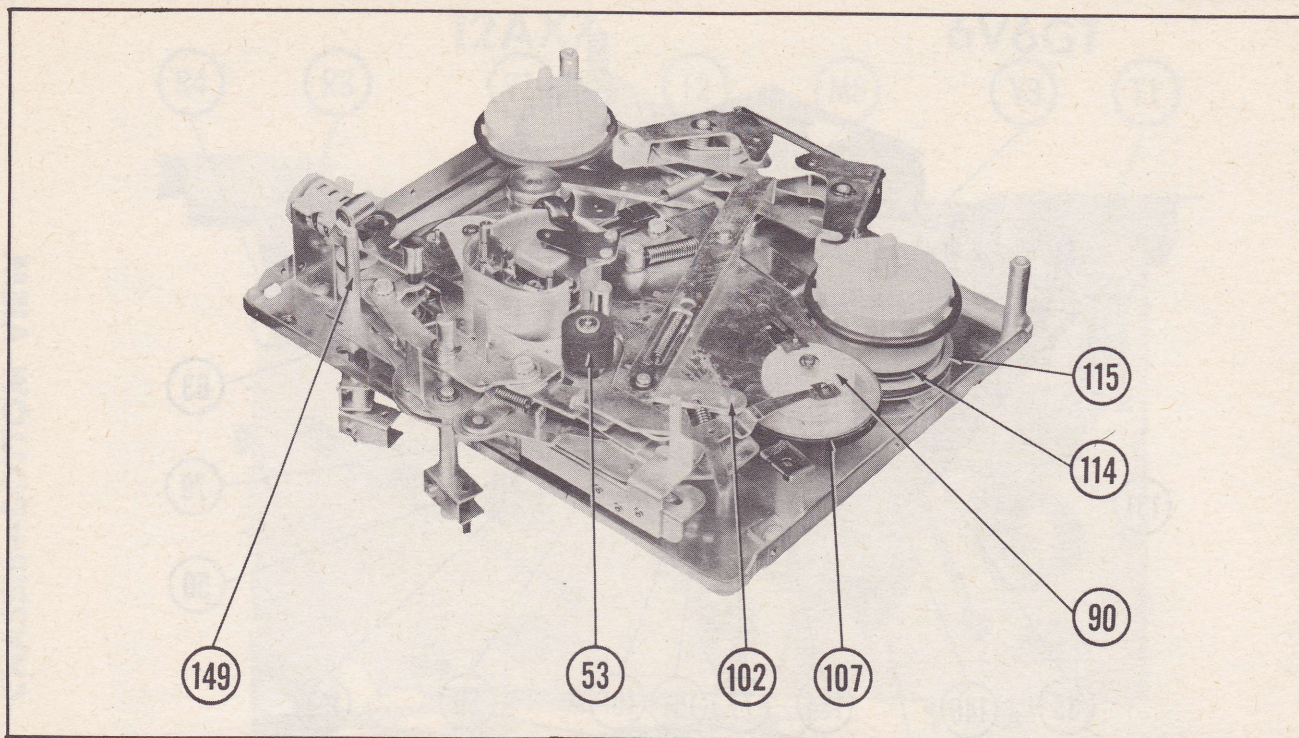


Figure 5.

To Operate Radio-Recorder Combination (Model TR-1200)

1. To Listen To Built-In Radio — Any plug must be removed from recorder's input jack. Turn Function Knob to "Stop" position, and adjust tone & volume controls to desired levels. To disconnect Radio, while in "Stop" position, any plug can be inserted into the input jack or the Radio can be de-tuned.

2. To Record From Built-In Radio — Any plug must be removed from the input jack. No external connections are necessary. Proceed with recording as described in "To Record From Microphone".

3. When external sources of recording material are used, the built-in radio will be automatically disconnected by the insertion of the respective plug into the input jack.

Twin-Track Recording

1. These recorders are designed so that each reel of tape holds two full length recordings, one on each half of the dull side of the tape.

2. After the first track has been recorded, a second recording can be made on the same side of the tape by removing the reels from the recorder, turning them over, and placing them on opposite spindles.

3. Thread the tape and proceed with the recording as previously described.

4. After the second track has been recorded, the first track is ready to be played, without rewinding, by changing reels as described in Step No. 2 above.

Splicing & Editing

Note: Since it is impossible to edit and splice one track without affecting the other, recordings which are to be edited should be limited to one track only.

1. The tape may be edited by cutting out unwanted portions, or by joining selections into another sequence. Announcements may be inserted between selections, etc., and unused sections of tape can be spliced together for re-use.

2. For best results, cut tape at a slight diagonal, join ends together with splicing tape on the glossy side, and trim off any excess width. Use Scotch #41 tape to prevent bleeding of adhesive.

3. For very precise editing, turn Function Knob to "Play" position and push in Instant Stop Button. Turn reels by hand to locate a single word or sound. Cut or mark tape at this sound by removing the head covers and marking tape at the right hand pole face of the Sound Head.

To Rewind Tape

1. The tape may be rewound at any time by moving high speed lever (105) to the left. In so doing, the tape on the take-up reel is transferred to the supply reel.

2. By moving the high speed lever back & forth (between rewind & neutral) the tape can be inched along to the number previously noted on the index counter.

3. After reaching the desired portion of the tape, move the high speed lever to the middle or neutral position to stop all movement of the tape.

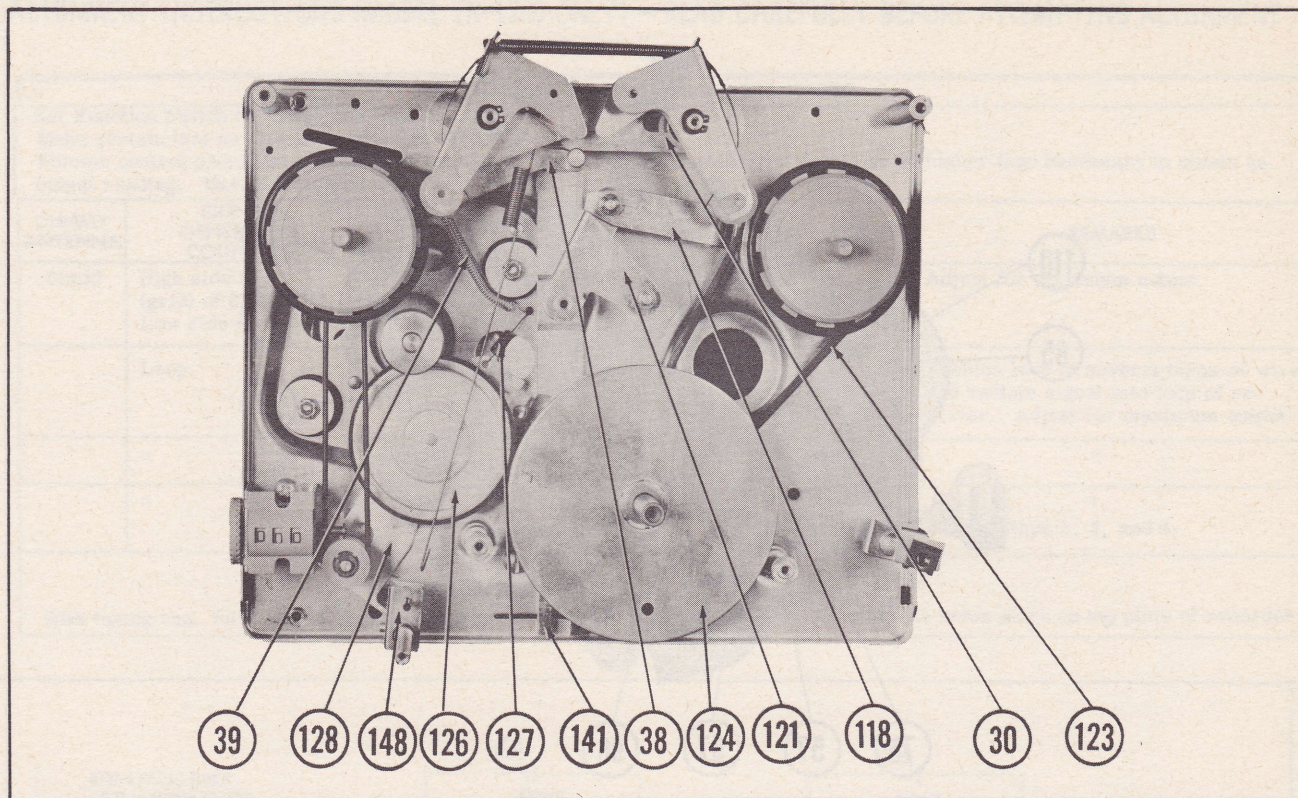


Figure 6.

To Play Back Recordings

1. Move high speed lever (105) to the left and wind tape back to the original counter setting. Return high speed lever to the center position to stop the reels.
2. Turn the Function Knob to "Play" position and adjust volume and tone controls to the desired listening level.

Fast Forward

1. Any portion of a recording may be skipped, or any selection may be located in a few seconds by moving the high speed lever (105) to the right. A few seconds of "Fast Forward" is equivalent to several minutes of playing time.
2. By moving lever (105) back & forth, the tape can be inched along to an exact point.
3. After reaching the desired portion of the tape, move the high speed lever to the middle or neutral position to stop all tape movement.

Connecting To Hi-Fi Systems

1. The recorder can be connected to Hi-Fi sys-

tems by using Revere Hi-Fi cables (see Auxiliary Parts List).

2. To connect for recording, plug a Hi-Fi cable between the recorder's input jack and the jack of an amplifier marked "Detector", "Tape", "Recorder Input", or "Pre-Amp Output".

3. To connect for playing a tape, plug a Hi-Fi cable between the recorder's rear output jack and the jack of an amplifier marked "Auxiliary", "TV", "Tuner", or "1V Input".

4. While tape is playing, set the recorder's tone control so that the black dot on the top plate assembly is opposite the blank space between treble and bass; set the volume control to flash the normal half of the indicator. Thereafter, adjust the Hi-Fi amplifier volume & tone to desired listening level.

To Use As Public Address System

1. Insert microphone plug into the Microphone P.A. Extension Cord. Plug Extension Cord into the recorder's input jack.
2. Turn Function Knob to "Stop" position and adjust volume & tone controls to desired listening level.

TIPS ON RECORDING WITH A MICROPHONE

In recording, the most satisfactory results are obtained when the microphone is held about one foot from the mouth. The microphone should not be placed on the same table with the recorder, or on a piano or radio, as it may pick up vibrations and produce a noisy recording. The pre-setting of the record level with either microphone or radio will be more accurately

set if the tone control is placed in treble. In monitoring with the recorder's speaker, the microphone must be kept as far from the speaker as possible. Best results will be obtained if the speaker and microphone are in separate rooms. Feedback and howling will occur if this precaution is not taken.

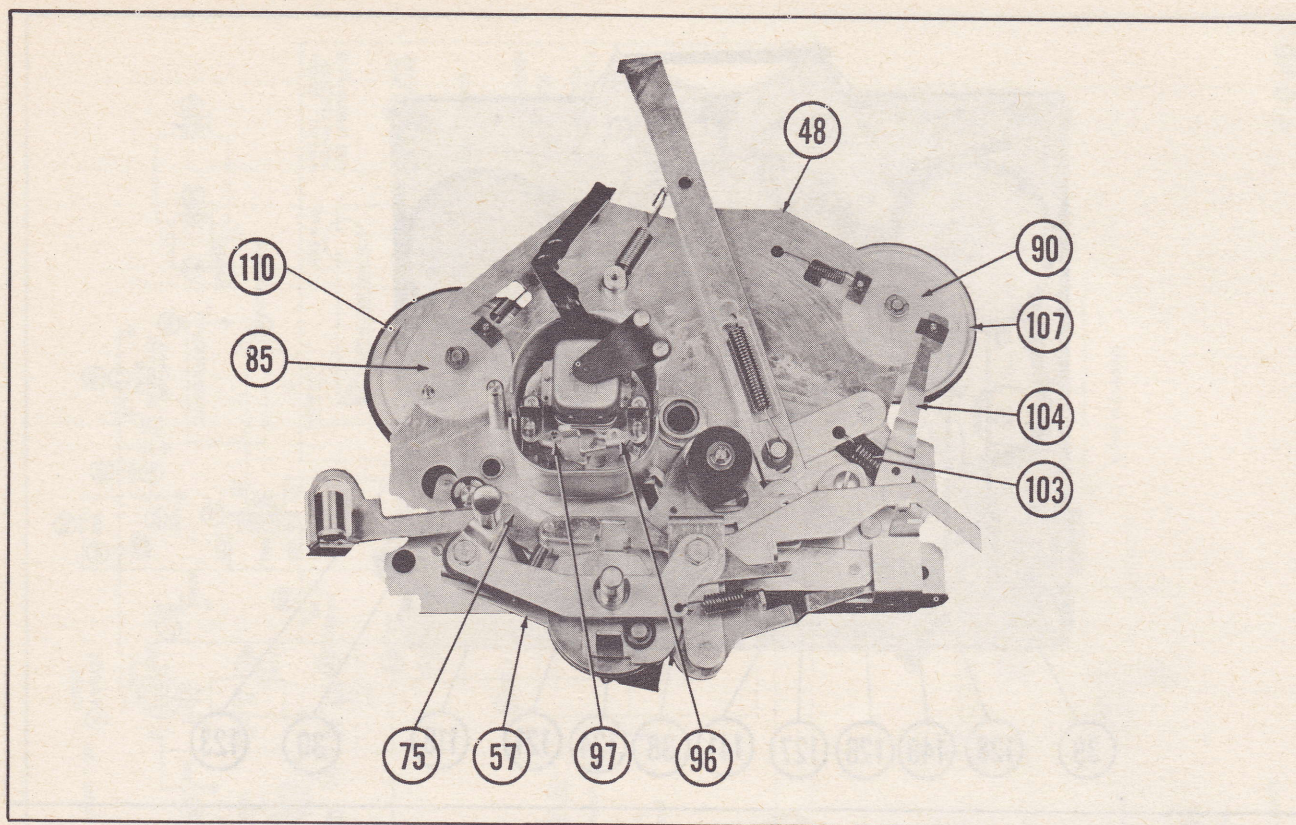


Figure 7.

DISASSEMBLY INSTRUCTIONS

To Remove Main Top Plate Assembly

This is done to expose most of the tape transport mechanical assembly. On Model TR-1200 remove two screws from Radio perforated top plate before attempting to remove Main Top Plate Assembly.

1. Pull "up" to remove plastic Function Knob (15), on-off Volume Control Knob (12), Tone Control Knob (13), Volume Control Nameplate (14), and Rear Head Cover (3). Remove High Speed Knob (9) by removing its rear screw. Remove Dual Speed Control Knob (11) by removing its top retaining screw.

2. Remove the following screws: Two Phillips head wood screws in front of the control panel, one screw above High Speed Knob, and five screws between the reel spindles.

3. Press the Instant Stop Button, and pry Top Plate Assembly "up" starting at the rear.

To Remove Recorder From Case

1. Remove large Phillips head screw with cup washer below Output Jack at rear of case.

2. Remove two small Phillips head screws attaching rear nameplate.

3. Remove five large Phillips head screws near the right and left sides of the bottom Tube Replacement Grille.

4. Lift the unit carefully up out of the case. Length of speaker cable permits speakers to remain with case.

5. Unplug speaker cable.

To Remove Amplifier From Mechanism

This is done to expose amplifier parts.

1. Unplug head plug and motor plug. Both are located on the bottom of the amplifier chassis. (See Fig. 8).

2. Remove speed Change switch arm (155), see Fig. 8, by removing its large Phillips head screw (156).

3. Remove three large Phillips head screws (3 used in Model T-1100 and 2 used in Model TR-1200) on the right compartment panel. The first of the four (4 used in Model T-1100) or the first of the three (3 used in Model TR-1200) need not be removed.

4. Remove two nuts holding left side of amplifier chassis to mechanism. Nuts are located under wire clamps, near motor (163). See Fig. 8.

To Service Radio Tubes (Model TR-1200)

Radio Tuner tubes can be checked or replaced without removing the recorder from its case by removing two small Phillips head screws from perforated top plate.

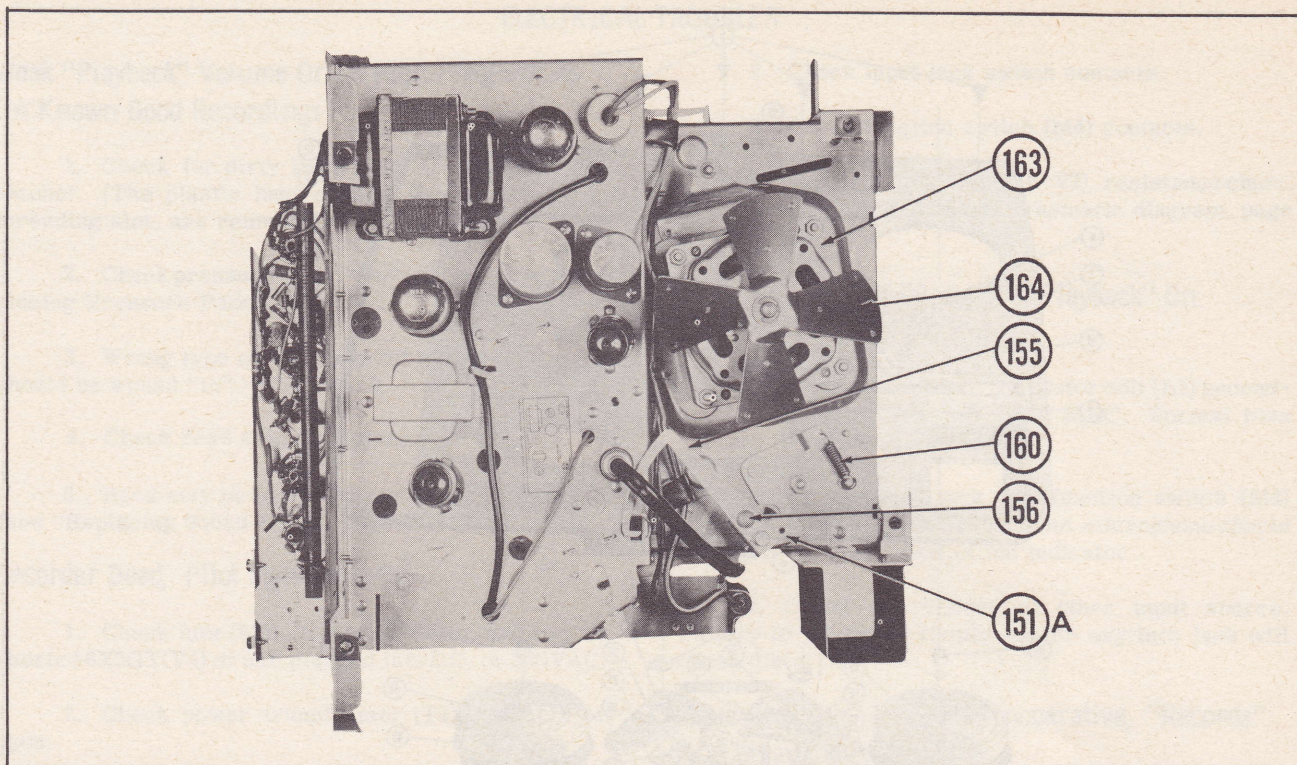


Figure 8.

To Service Amplifier Tubes

The Amplifier tubes can be checked or replaced

without removing the recorder from its case by removing six Phillips head screws from the case bottom grille.

PRELIMINARY TESTS — REPAIR PROCEDURE

TEST PROCEDURE: FAILURE TO PASS ANY OF THESE TESTS INDICATES A FAULT THAT SHOULD BE REMEDIED.

1. Remove front and rear plastic head covers (3 & 4) by pulling "up". Clean head (94), tape guides, and capstan with alcohol.

2. Turn Function Knob (15) to "Stop" position, place high speed lever (105) in the middle or neutral position, and turn power "on".

3. Thread tape on recorder. Brakes should be engaged. Pull required on reel should not distort the tape and should offer sufficient drag to prevent spilling of tape. Drop tape into threading slot. Attach free end to take-up reel (right). Reel should rotate freely counterclockwise and drag when rotated clockwise.

4. Turn Function Knob to "Play" position. Felt pressure pads should press square against tape and cover shiny pole face area under tape. Pressure roller (53) should contact capstan and tape should move past the play-record-erase head at playing speed. Take-up reel should wind up tape as it passes capstan. The counter should tally each revolution of the supply reel.

5. Move high speed lever to the right (Fast Forward) or left (Rewind) and check to see that the Function Knob is automatically returned to "Stop" position;

pressure roller and pressure pads should also be released. Tape should move in either direction at a greatly increased speed.

6. Return high speed lever to the middle or neutral position. Tape should stop without spilling or breaking.

7. Connect microphone and prepare to make a microphone recording. With tone control in treble, adjust volume control while speaking so that "Normal" half of indicator flashes and "Distorted" half does not. While holding the Record Lock Button in the depressed position, turn Function Knob to "Record". Turn speed change knob to make recordings at both speeds.

8. Rewind tape by moving high speed lever to left. The Function Knob should automatically return to "Stop" position, thus re-setting the Record Lock Button.

9. Playback the recording at both speeds. Check the volume, tone, and overall quality. Amplification at full volume should be sufficient, on a normally recorded tape, to deliver approximately 5 watts output.

10. Press Instant Stop Button while recorder is in either "Play" or "Record" position. Tape should stop instantly. Upon releasing Button, tape should start instantly and not spill off the reels.

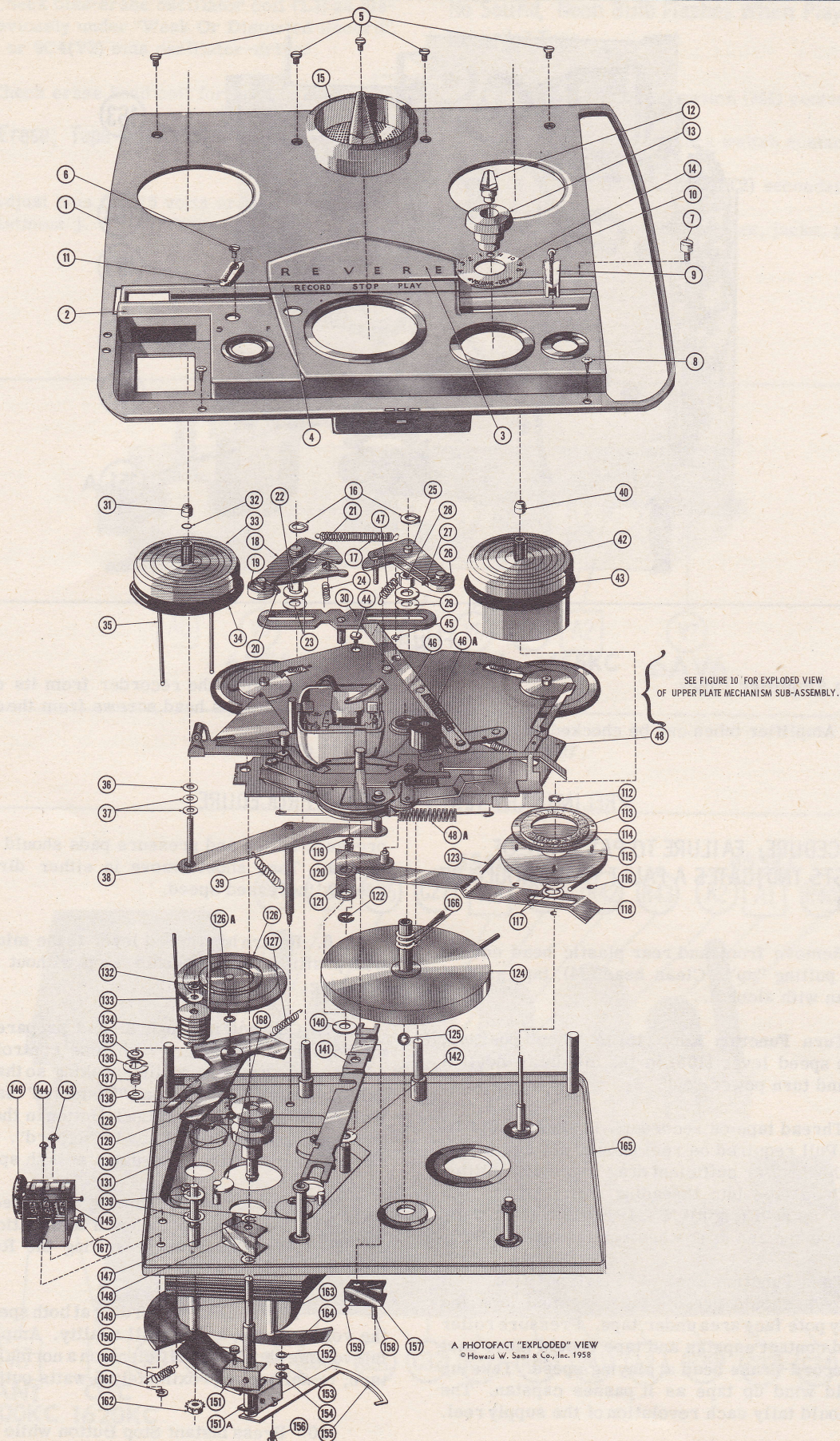
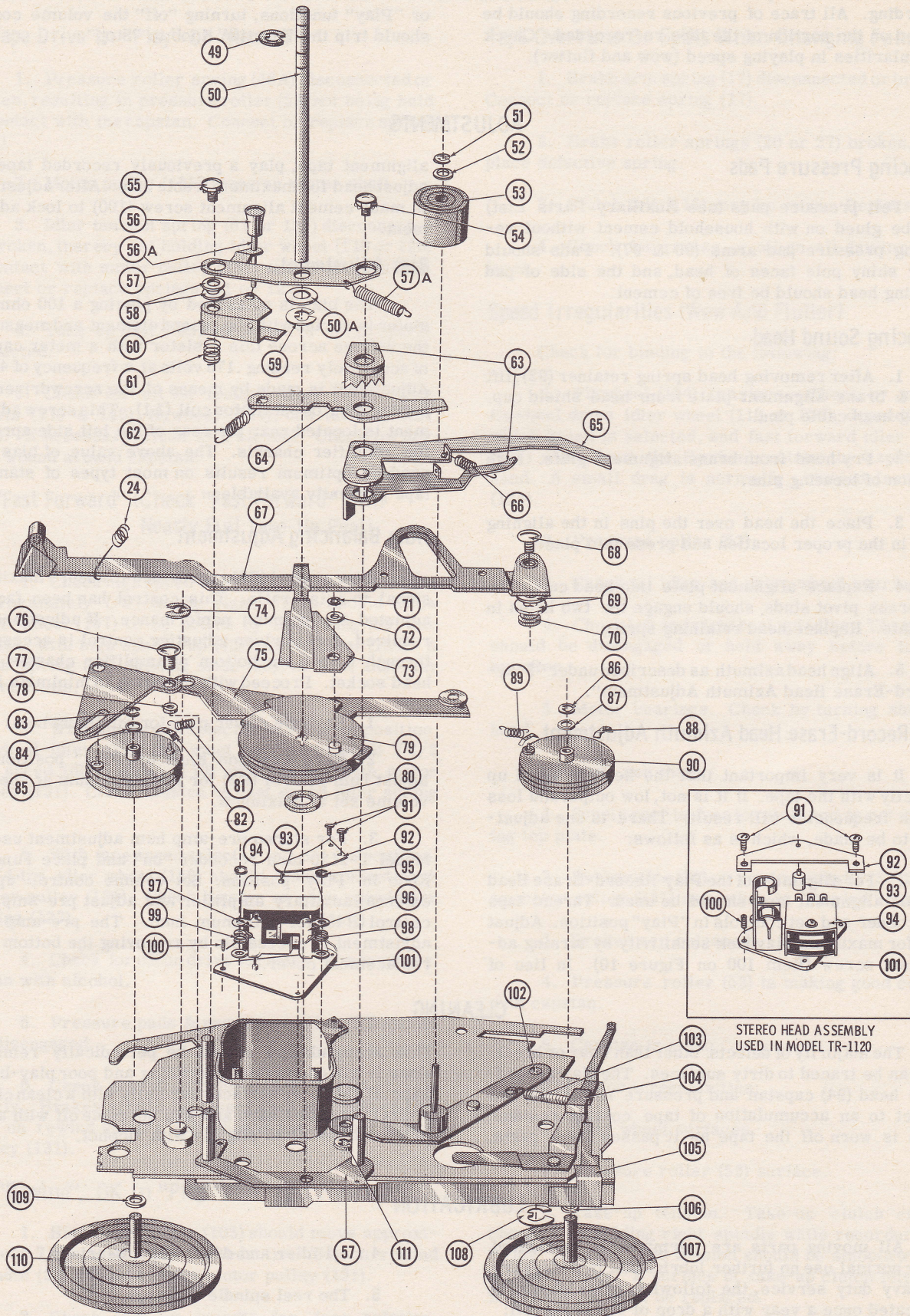


Figure 9. Exploded View Of Tape Transport Mechanism.



A PHOTOFAC "EXPLODED" VIEW
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Figure 10. Exploded View Of Upper Plate Mechanism Sub-Assembly.

11. Rewind tape and re-record over previous recording. All trace of previous recording should be erased on the portion of the tape re-recorded. Check irregularities in playing speed (wow and flutter).

12. With the Function Knob in either "Record" or "Play" functions, turning "off" the volume control should trip the Function Knob to "Stop".

ADJUSTMENTS

Replacing Pressure Pads

Felt pressure pads (see Auxiliary Parts List) may be glued on with household cement without removing pressure pad arms (96 & 97). Pads should cover shiny pole faces of head, and the side of pad touching head should be free of cement.

Replacing Sound Head

1. After removing head spring retainer (92), lift head & brass alignment plate from head shield cup. Unplug head cable plug.

2. Pry head from brass alignment plate. Note position of locating pins.

3. Place the head over the pins in the aligning plate in the proper location and press into place.

4. Replace alignment plate into head cup. The two brass pivot studs should engage the two holes in the plate. Replace head retaining spring.

5. Align head azimuth as described under "Play-Record-Erase Head Azimuth Adjustment".

Play-Record-Erase Head Azimuth Adjustment

It is very important that the head be lined up perfectly with the tape. If it is not, low output and loss of high frequencies will result. There is one adjustment to be made, which is as follows:

1. For alignment of the Play-Record-Erase Head a 1 mil alignment tape should be used. Thread tape on recorder and set controls in "Play" position. Adjust head for maximum playback sensitivity by turning adjustment screw (Item 100 on Figure 10). In lieu of

alignment tape, play a previously recorded tape and adjust head for maximum treble tone. After adjustment is made cement alignment screw (100) to lock adjustment.

Bias Adjustment

The bias is measured by placing a 100 ohm resistor in series with the record element and measuring the voltage across this resistor with a meter capable of accurately reading .175 volts at a frequency of 40KC. Adjustment is made by means of the screwdriver adjusting slug on oscillator coil (L1). This screw adjustment is located near the rear of the left side apron of the amplifier chassis. The above value of bias will produce optimum results on most types of standard tape presently available.

Hum Balancing Adjustment

Hum control (R2) is provided to assure maximum signal to noise ratio. This control has been factory adjusted for optimum performance. If adjustment is required, screwdriver adjusting control is accessible through hole from bottom of amplifier chassis near head socket. Proceed with following to minimize hum:

1. Reverse power plug for minimum hum.

2. Turn Function Knob to "Play" position and adjust hum control (R2) for minimum hum at speaker, volume set at maximum.

3. For stereo pre-amp hum adjustment used in Model T-1120 turn recorder "on" and place Function Knob in "Play" position. Set volume control "up" on external auxiliary amplifier and adjust pre-amp hum control (R45) for minimum hum. The pre-amp hum adjustment is accessible by removing the bottom tube replacement cover.

CLEANING

The majority of defects, other than wear or breakage, can be traced to dirty surfaces. The play-record-erase head (94) capstan and pressure roller (53) are subject to an accumulation of tape coating residue, which is worn off the tape as it passes these parts.

This accumulation should be periodically removed since it will cause faint recording and poor play-back. Wipe off the above surfaces carefully with a clean cloth. If dirt is caked or hard and will not come off with a dry cloth, dampen cloth slightly with alcohol.

LUBRICATION

All moving parts are permanently lubricated. Under normal use no further lubrication is necessary. In heavy duty service, the following parts should be lubricated once a year with a drop of #10 motor oil:

1. The top and bottom motor bearings.

2. The top and bottom flywheel (124) bearings.

3. Pressure roller (53) bearings.

4. All idler and drive wheel bearings.

5. The reel spindle bearings.

The basic rule is — do not over lubricate. Oil must be kept off all rubber idlers, belts, and periphery of flywheel and off parts that might transfer oil to them. Always wipe excess lubricant from parts that have been lubricated.

MECHANICAL TROUBLES

No Tape Drive In "Play" Or "Record"

1. Pressure roller spring (46A) disconnected or broken, resulting in pressure roller (53) not being held in contact with the capstan. Connect or replace spring (46A)

2. Motor pulley (131) loose on motor shaft.

3. Idler tension spring (81 or 127) disconnected or broken, thereby not holding idler wheel (110 or 126) in contact with motor pulley (131) and flywheel (124). Connect or replace springs (81 or 127).

4. Take-up belt (123) stretched or not properly connected.

5. Check for oil on motor pulley (131), idler wheels (110 & 126), flywheel (124), and take-up belt (123). If necessary, clean with alcohol. Check for any tape wound around capstan.

No "Fast Forward" (Check "Fast Forward" With Nearly Full Take-Up Reel)

1. Check high speed lever (105) to see if it moves approximately 7/8" to the right. This should allow idler wheel (107) to be pulled by its spring (89) into contact with high speed cup (42) and flywheel (124). A weak spring (89), binding slide (90), or bent arm may prevent this.

2. With tape speed selector in 7 1/2 ips position, flywheel idler slide (85) must be free to slide 7 1/2 ips speed idler wheel (110) into contact with motor pulley (131). Check tension on fast speed idler spring (81).

3. With tape speed selector in 3 3/4 ips position, 3 3/4 ips idler wheel (126) should make contact with motor pulley (131). Check tension on slow speed idler spring (127).

4. Check for oil on drive surfaces. If necessary, clean with alcohol.

5. Pressure pads & pressure roller (53) should be disengaged.

6. Check rewind spindle to see that it rotates freely. Brakes should be disengaged and rubber tire (34) on rewind spindle (33) should not contact motor pulley (131).

No "Rewind", OK In "Play" And "Fast Forward"

1. High speed lever (105) should move approximately 7/8" to the left. Rubber tire (34) on rewind spindle (33) should contact motor pulley (131).

2. Check take-up spindle for free rotation. Brakes should be disengaged, and idler wheel (107) should not be driving high speed cup (42).

3. Rewind arm spring (39) loose or broken. Replace.

Tape Overruns Or Spills When Changing Functions

1. Brake arm spring (17) disconnected or broken. Connect or replace spring (17).

2. Brake roller springs (20 or 27) broken. Replace defective spring.

3. Clutch felt (113) may be worn. Replace.

4. Check for grease or oil on all driving surfaces.

Speed Irregularities (Wow And Flutter)

Check for binding in the following:

1. Flywheel (124) bearings. Check by moving flywheel drive idler wheel (110 or 126), depending on which speed is selected, and fast forward idler wheel (107) away from the flywheel; rotate the capstan by hand. A small drag is normally obtained from belt (123).

2. Pressure roller (53).

3. Check all idler and drive wheel bearings.

4. Check left and right reel spindles. The brakes should be disengaged or held away before turning spindles.

5. Motor bearings. Check by turning shaft by hand.

Check to see that:

1. Supply reel is free to rotate and is not scraping top plate.

2. Rubber tire (34) on rewind spindle (33) touches motor pulley (131) only when in "Rewind" position.

3. Brakes are released.

4. Pressure roller (53) is making good contact with capstan.

5. Capstan is clean.

Check for irregularities:

1. Idler wheel surfaces.

2. Pressure roller (53) surface.

3. Take-up tension. Take-up clutch can be checked by holding right spindle while recorder is in "Play" position. The tension should be smooth without any pulsations. If surface of take-up clutch felt (113) is gummy, it must be replaced.

Insufficient Tape Take-Up

1. Increase take-up by adding another washer (117).

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2. Clutch felt (113) may be worn. Replace clutch felt.

Tape Squeak

Tape squeak is caused by faulty tape with insufficient lubrication. Tape squeaking is accentuated by high temperature and humidity. Squeaking can be minimized by:

1. Cleaning head and pressure pads with alcohol.
2. Slightly decreasing pressure pad spring (98 or 99) tension.

Fails To Record

1. Pressure pad spring (98) weak or broken resulting in the pressure pad not holding tape firmly against erase element. Replace spring (98).
2. Pressure pad worn or missing. Replace pressure pad.
3. Check for dirt on erase head element. Clean with alcohol on a soft cloth.

Fails To Erase

1. Pressure pad spring (99) weak or broken resulting in the pressure pad not holding tape firmly against the record element. Replace spring (99).
2. Pressure pad worn or missing. Replace.
3. Check for dirt on record head element. Clean with alcohol on a soft cloth.

Pressure Pads Do Not Disengage In "Stop" Position

1. Check pressure roller (53) arm linkage under sound head shield cup.

Tape Counter Sticks

1. Counter sticking is usually caused by a defective counter (145) and not by slippage of tape counter drive belt (35). Check counter.

AMPLIFIER FUNCTION SWITCH OPERATION (ELECTRICAL)

"Stop" Position

Record-playback-erase head disconnected. Pre-amp, 12AX7(V1), connected to input jack. Tone control is functioning. Driver 6S4(V2) used in Model TR-1200, or 6C4(V2) used in Model T-1100 disconnected. In Model TR-1200 amplifier output is connected to speaker without the insertion of a plug into the input jack. In Model T-1100 insertion of a long plug must be made before amplifier output is connected to the speaker.

"Record Position"

Record-playback head connected to the amplifier output. Pre-amp, 12AX7(V1), connected to input jack. Tone Control is disconnected. Driver 6S4(V2) used in Model TR-1200, or 6C4(V2) used in Model

Function Knob Does Not Return To "Stop" When High Speed Lever Is Moved Or When Volume Control Is Turned "Off"

1. Check for binding in all linkages connected to the mechanism control shaft. In particular, check for binding in the amplifier function switch (M4). To check this, loosen set screw from function switch cam actuator (157) and slide upward on control shaft (50). Thereafter see if mechanism acts normal. Binding in the amplifier function switch may be caused by the switch shield rubbing against the slide switch. In some cases excessive friction in the function switch can be reduced by lubricating the switch contacts with a non-oxidizing lubricant.

2. If turning the volume control to "off" does not trip the Function Knob to "Stop" position, check to see if the pin at the bottom of the volume control knob is tripping function cam pawl (63).

Function Knob Cannot Be Turned To "Play" Position

1. Spring (66) disconnected or broken. This spring must be connected as shown in Figure 2. If not, the Function Knob cannot be placed in the "Play" position.

Function Knob Will Not Stay In "Play" Or "Record" Position

1. Spring (57A) disconnected or broken. This spring must be connected as shown in Figure 2. If not, the Function Knob will return to "Stop" position when placed in the "Play" or "Record" position.

Faulty Instant Stop

1. While Function Knob is in "Play" position, check that the instant stop brake (18) comes in contact with the rewind spindle tire (34) the instant the pressure roller (53) starts moving away from the capstan. Slight adjustment can be made by bending the instant stop arm linkage to the instant stop spring (24).

T-1100 connected to operate as a bias-erase oscillator. In Model TR-1200 amplifier output is connected to speaker through a 10 ohm muting resistor with no plug insertion into the input jack necessary. In Model T-1100 insertion of a long plug is necessary before the amplifier output connection is made to the speaker through the 10 ohm muting resistor.

"Play" Position

Record-playback head connected to the pre-amp, 12AX7(V1). Tone control is functioning. Driver 6S4(V2) used in Model TR-1200, or 6C4(V2) used in Model T-1100 connected as a driver between pre-amp 12AX7(V1) and output stage 6V6GT(V3). Amplifier output is connected to speaker.

ELECTRICAL TROUBLES

Weak "Playback" Volume Or No High Frequencies On Known Good Recordings

1. Check for dirty head (94). Clean head with alcohol. (The plastic head covers, front and rear of threading slot, are removed by prying "up").
2. Check pressure pads. See paragraph on "Replacing Pressure Pads", page 12.
3. Wrong type of tape or wind (dull side of tape should be wound "in" — "A" wind).
4. Check head azimuth adjustment, page 12.
5. Head may be worn badly or need replacement (see "Replacing Sound Head", page 12).

Recorder Dead, Pilot Light (M3) Off

1. Check fuse (M1). Cause of blown fuse may be shorted 6X5GT(V4) or unit plugged into D.C. or 220 VAC.
2. Check power transformer (T1) for short or open.
3. Check power cord and "on-off" switch on volume control (R1B).

Dead "Playback", Appears To Operate Properly In "Record" (Record Level Indicator Operating)

1. Check output jack (M7), speaker socket (M8), and speakers (SP1 & SP2).
2. Check for mal-functioning of function switch (M4) contacts.
3. Check for defective head (94). A screwdriver rubbed over the playback element (right element) with volume control set at maximum should produce a sound.

No Monitoring Or P.A. Of Sound When Signal Is Fed Into Input Jack Using Standard Phone Plug (Function Knob In "Stop" For P.A. And In "Record" For Monitoring) Unit Functions Properly On "Playback"

1. Check input jack switch contacts. In Model TR-1200 a long plug inserted in the input jack should short out the input from Radio Tuner Sub-Assembly and simultaneously switch the speaker "on" for P.A. in "Stop" position or for Monitoring in "Record" position. In a like manner, with the exception of shorting out of radio tuner input, speaker is switched "on" in Model T-1100.

No Sound From Radio (Model TR-1200) Function Knob In "Stop" Position (Unit Functions Properly In "Playback")

1. Check to see that there is no plug inserted into the recorder's input jack.

2. Check input jack switch contacts.
3. Check function switch (M4) contacts.
4. Check radio tubes (V5-V7), resistance chart, & operating voltages. (See schematic diagram, page 17).

Weak Or Distorted "Record," "Playback" On Pre-Recorded Tape OK

1. Check bias-erase oscillator coil (L1) secondary for approximately 30 volts @ 35KC. Normal bias current is 1.75 milliamps.
2. Check input jack and function switch (M4) contacts. Normal speech 1 ft. from microphone should flash the "Normal" half of the indicator.
3. Check microphone or other input source. Failure to push plug firmly all the way into jack will cause distortion.

Recording Level Indicator Inoperative, "Records" And "Plays" Properly

1. If indicator (M2) is dead, lamp may be loose or record level indicator circuit defective. Check (C24), (R27), (R28), & (R29).
2. If indicator always glows (C24) may be shorted, (R28) changed value or open, or amplifier may be oscillating.

Records Background Hum, Hum Lower On Pre-Recorded Tape

1. Check all tubes (V1-V3) for heater to cathode leakage; also check (C1) & (C2).
2. Check input shield wiring to see if grounded.
3. Record from another microphone, radio, etc., to see whether hum comes from an outside source.

Hum On "Playback", Falls Off With Decrease In Volume Control

1. Minimize hum as outlined under "Hum Balancing Adjustment" on page 12.
2. Move recorder away from hum fields such as fluorescent lamps, amplifiers, etc.

Microphonic Howl In "Play", But Dies Out When Volume Is Lowered

1. Try different 12AX7(V1) in pre-amplifier stage.

No "Erase," Records Over Previous Recordings

1. Check for dirt on erase head element and check pressure pads.

REVERSE
MODELS T-1100, T-1120, TR-1200

FOLDER 15

2. Check bias-erase oscillator coil (L1) as discussed previously under "Weak Or Distorted Record". Check 6S4 or 6C4(V2) bias oscillator-driver.

3. Check erase head coil for open or short.

Excessive Erase, Tape Burns When Remote Control Is Used

1. Adjust bias for .15 volts or less (see page 12 "Bias Adjustment").

No Sound, Neon Bulb Flashes When Playing A Recorded Tape

1. Check function switch (M4) contacts.
2. Check speaker jack switch contact.
3. Check transformer (T2) secondary for open.
4. Check connecting cables, jacks, plugs, etc.

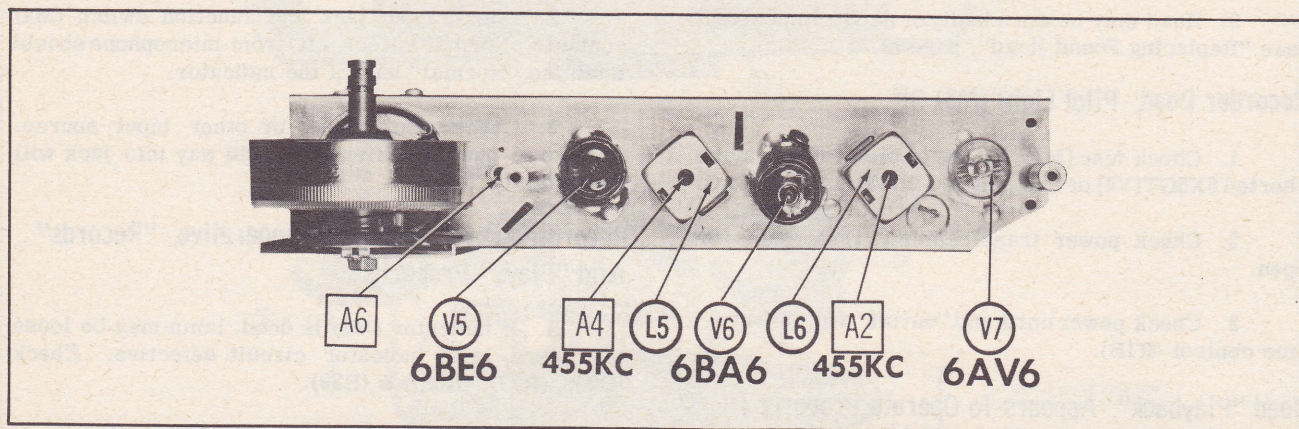


Figure 11. Top View - Radio Tuner.

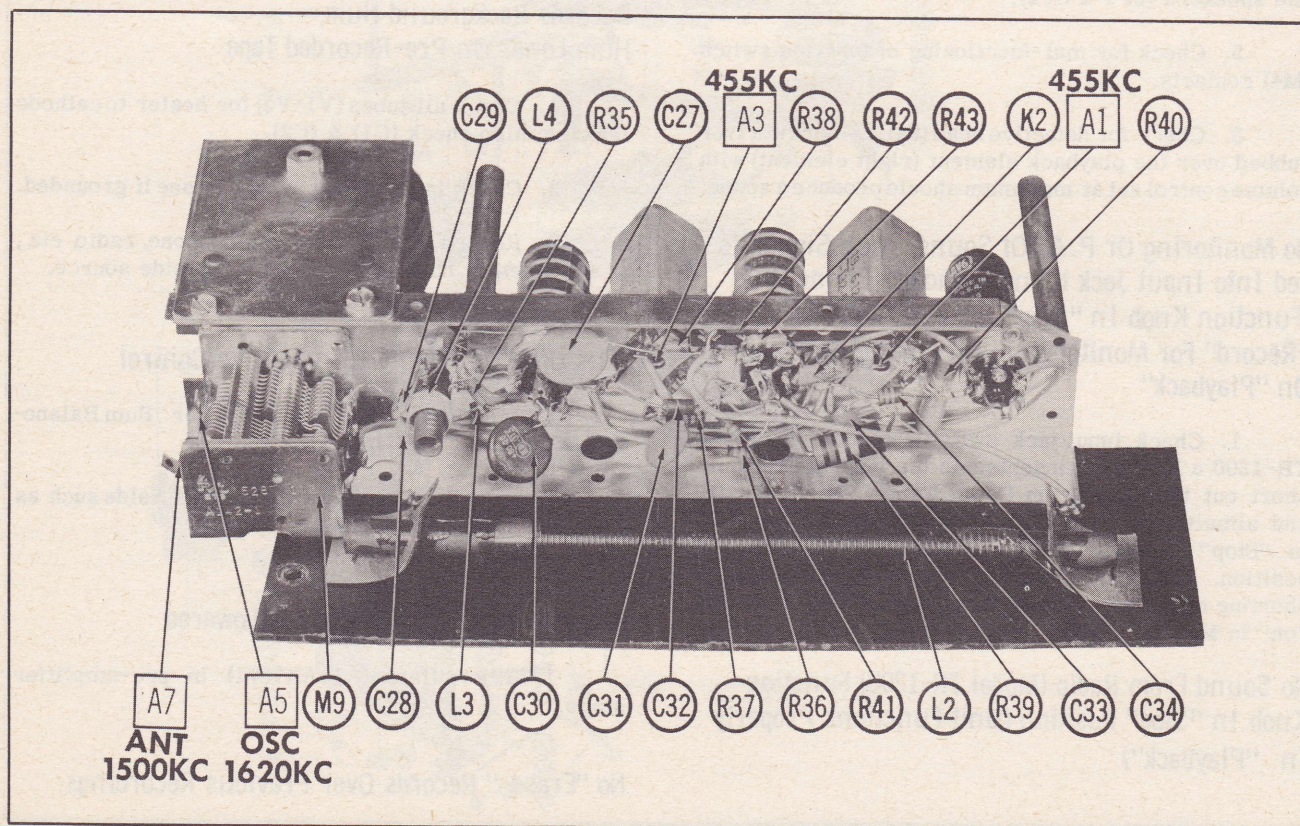


Figure 12. Bottom View - Radio Tuner.

ALIGNMENT INSTRUCTIONS (MODEL TR-1200 ONLY) – READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

TUNING RANGE—BROADCAST 540-1620KC

Set Function Switch to "Stop" position.

Make certain that no plug is inserted in recorder input jack.

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01mfd	High side to pin 7 (grid) of 6BE6 (V5). Low side to chassis.	455KC (400% Mod.)	Tuning Gang fully open.	Amplifier output	A1, A2, A3, A4	Adjust for maximum output.
2.		Loop	1620KC	"	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.	"	"	600KC	"	"	A6	"
4.	"	"	1500KC	Tune to 1500KC signal.	"	A7	" Repeat Steps 2, 3, and 4.

POINTER SETTING

With tuning cap. fully closed, set tuning drum so that the last index mark is opposite the index mark on top plate of recorder.

REVERSE
MODELS T-1100, T-1120, TR-1200

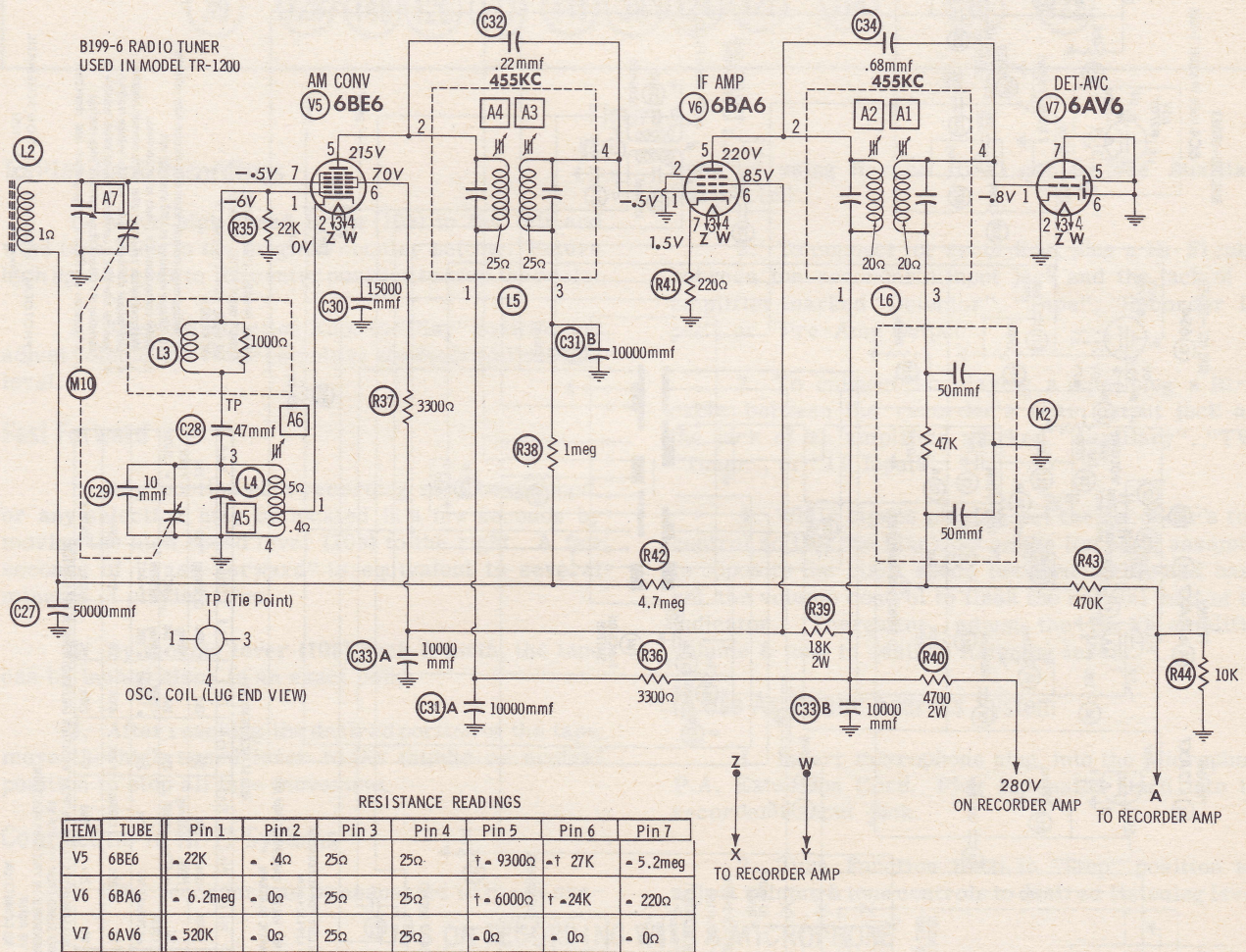
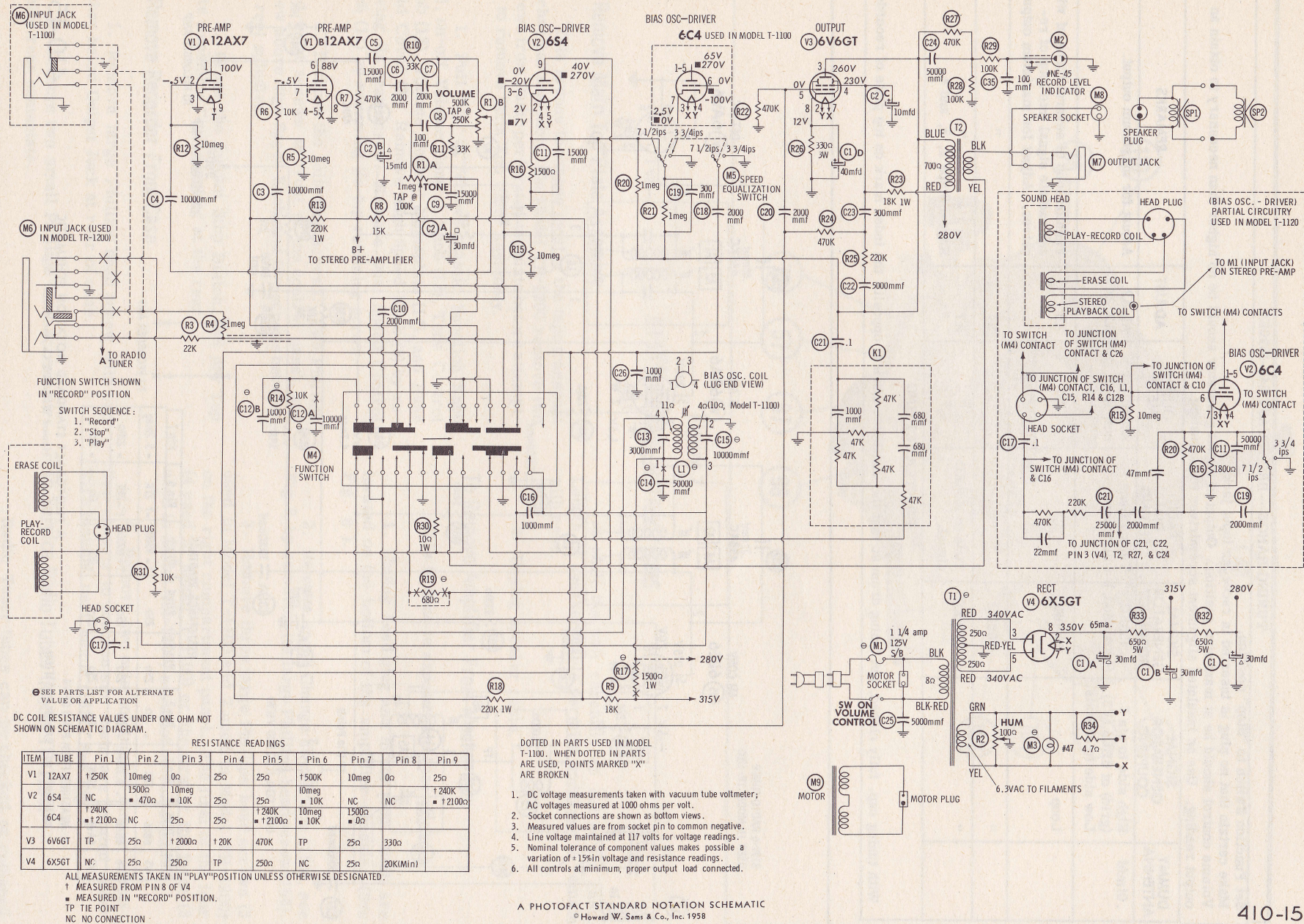


Figure 13. Schematic - Radio Tuner.

Figure 14. Schematic - Recorder Amplifier.



CHASSIS—TOP VIEW

AMP PARTS LIST AND DESCRIPTIONS
TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	Preampifier	12AX7		V3	Output Rectifier	6V6GT	
V2	Bias Oscillator	6SA4		V4		6X5GT	

ELECTROLYTIC CAPACITORS

ITEM No.		RATING		REVERSE		REPLACEMENT DATA		SPRAGUE	
		CAP.	VOLT.	PART No.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	PART No.	
C1A	30	450		A119-2		AFH4-77	D0560 BR1645	TMQ-96	R2890*
C1B	30	400						TD-16-450	
C1C	30	350							
C1D	40	25							
C2A	30	350		A119-1		AFH3-28-30	C0225	TMT-28	TVL-3638.8
C2B	30	350						TD-10-450	
C2C	15	350							
C2D	10	300							

*Non Catalog Item

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.		RATING		REVERSE		REPLACEMENT DATA		NOTES	
		CAP.	VOLT.	PART No.		AEROVOX PART No.	CENTRALAB PART No.	PART No.	
C3	10000			B114-1		BPD-01	DD-103	DC511	SHK-S1
C4	10000			B114-2		BPD-05	DD-103	DC511	SHK-S1
C5	15000			B113-2		BPD-002	DD-202	DC522	SHK-S1
C6	2000			B113-2		BPD-002	DD-202	DC522	SHK-S1
C7	2000			B112-1		SI 100	D6-101	UC-531	SGA-T1
C8	100			B114-2		BPD-05	DD-16-153	DC522	SHK-S1
C9	15000			B113-2		BPD-002	DD-202	DC522	SHK-S1
C10	2000			B113-2		BPD-002	DD-202	DC522	SHK-S1
C11	15000			B114-2		BPD-015	DD-16-153	DC511	SHK-S1
C12A	10000			B114-9		BPD-2X01	DD-103	DC511	SHK-S1
C13	3000			B113-5		1467-003	DD-302	MC-461	1FM23
C14	50000			B114-11		BPD-05	DD-103	DC511	SHK-S5
C15	10000			B114-1		BPD-01	DD-103	DC511	SHK-S1
C16	1000			B113-1		SI 1000	D6-102	UC-521	2TM-P1
C17	1		200	B113-2		P288N-1	DD-202	GEM-201	SHK-D2
C18	2000			B112-4		BPD-002	DD-301	UC-533	SGA-T3
C19	300			B113-2		DI-0003	DD-202	DC522	SHK-D2
C20	2000			B113-2		P288N-1	DD-301	DC522	SHK-D2
C21	1		600	B115-2		BPD-002	DD-104	GEM-601	6TM-P1
C22	5000			B113-8		DI-0003	DD-502	DC525	SHK-D5
C23	300			B112-4		BPD-005	DD-301	UC-533	SGA-T3
C24	50000			B114-11		BPD-05	DD-502	DC525	SHK-S5
C25	5000			B113-8		BPD-005	DD-502	UC-521	SHK-D5
C26	1000			B113-1		SI 1000	D6-102	UC-521	SHK-D1

Note 1. In Model T-1100 C12A is not used and C12B is 1000mmf (Part #B113-1)

Note 2. Used only in Model TR-1200

Note 3. In Model T-1100 2000mmf is used in this application (Part # B113-2)

CONTROLS

ITEM No.		RATING		REVERSE		REPLACEMENT DATA		INSTALLATION NOTES	
		RESISTANCE	WATTS	PART No.		CENTRALAB PART No.	IRC PART No.	PART No.	
R1A	Ineg			B140-2				UE3836S	Tone, Tap @ 100K
R1B	300K								Volume, Tap @ 250K
R2	100K		2(WW)	A140-1					Hum Balance

*"STA-LOC" Equivalent: FB16T15, 08675, J51250, US41

AMP PARTS LIST AND DESCRIPTIONS (Continued)

CHASSIS—BOTTOM VIEW

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REVERSE PART No.	NOTES	ITEM No.	RATING		REVERSE PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R3	22K		B103-7		R19	6800		B101-7	Note 2.
R4	1meg		B105-1		R20	1meg		B105-1	
R5	10meg		B105-5		R21	1meg		B105-1	
R6	10K		B103-2		R22	470K		B104-10	
R7	470K		B104-10		R23	18K	1	B103-6	
R8	15K		B103-4		R24	470K		B104-10	
R9	18K		B103-5		R25	220K		B104-5	
R10	33K		B103-8		R26	350K	3	B104-10	
R11	33K		B103-8		R27	470K		B104-1	
R12	10meg		B103-5		R28	100K		B104-1	
R13	220K		B104-6		R29	100K		B100-2	
R14	10K		B103-2	Note 1.	R30	10K	1	B103-2	
R15	10meg		B105-5		R31	10K		A106-9	
R16	15000		B102-9	Note 2.	R32	6500	5	A106-9	
R17	15000		B102-4		R33	6500	(WW)	B100-1	
R18	220K	1	B104-6		R34	4, 7K			

Note 1. Model T-1100 use 22K in this application (Part # B103-7)

Note 2. Not used in Model T-1100 or T-1120

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA				
	PRI.	SEC. 1	SEC. 2	REVERSE PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.
T1	117V	640VCT	6.3V	B130-3 ①	P9306 ②	P-3151 ②		PC9408 ②

① Part # B130-1 used in Models T-1100 and T-1120

② Drill New Mounting Holes

③ Use Original Shields.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	REVERSE PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	
T2	75000	3-40	A-131-1	Z1115 ①	A-3020	AU-600	A-3878 ①	26548

SPEAKER

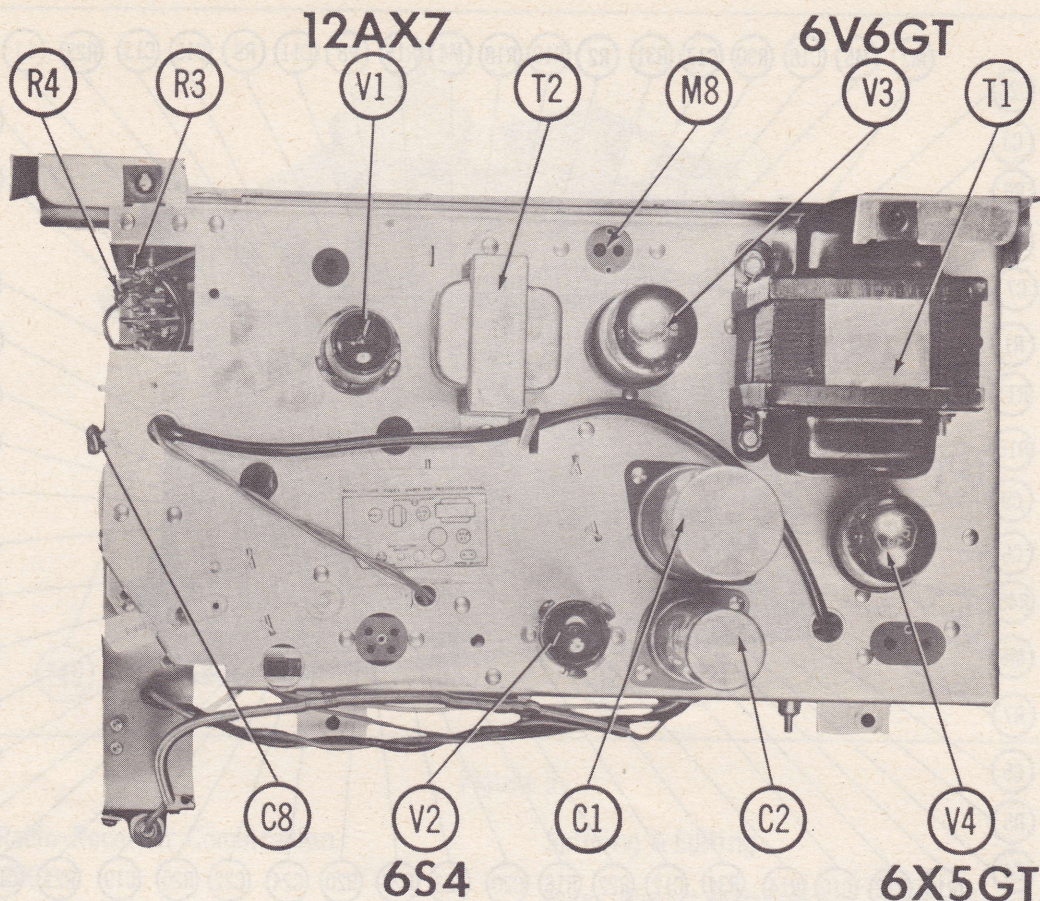
ITEM No.	TYPE		REPLACEMENT DATA		NOTES
	SIZE	FIELD	REVERSE PART No.	QUAM PART No.	
SP1	5 1/4"	PM	3-40	C-160-1C	
SP2	5 1/4"	PM	3-40	C-160-2	

COIL

ITEM No.	USE		REPLACEMENT DATA			NOTES
	Bias Osc.		REVERSE PART No.	Meissner PART No.	Miller PART No.	
L1	Bias Osc.		A132-8	A132-1		Model TR-1000 Model T-1100

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	REVERSE PART No.	REPLACEMENT DATA
K1	Tone Compensation	1000mmf, 680mmf 47K, 47K, 47K, 47K	A177-2	



AMP PARTS LIST AND DESCRIPTIONS (Continued)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			REVERE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	1 1/4A 125V S/B	A176-1①		315L 25 (1 1/4A 125V S/B)		MDV 1 1/4	

①Some versions may use 1 6/10A (Part #A176-2)

MISCELLANEOUS

ITEM No.	PART NAME	REVERE PART No.	NOTES
M2	Lamp	A121-2	Record Level Indicator, NE-45, Neon Type
M3	Lamp	A121-5	Pilot Light, #47 (Alternate Type #1847)
M4	Switch	A141-1	Function, Slide Type
M5	Switch	A141-8	Speed Equalization, DPDT, Slide Type
M6	Jack	A174-17	Input, Model TR-1200
M7	Jack	A174-1	Input, Model T-1100
M8	Speaker Socket	A174-5	Extension Spkr.
M9	Motor	A174-2	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	B15-11156	High Speed
Knob	A2-12399	Two Speed Control
Knob	A1-12360	On-Off-Volume
Knob	B15-11155	Tone
Knob	A1-12361	Function
Knob	B15-11157	Counter Reset
Button	A4-11060	Record Lock, Release

TUNER PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V5	AM Converter	6BE6	
V6	IF Amplifier	6BA6	

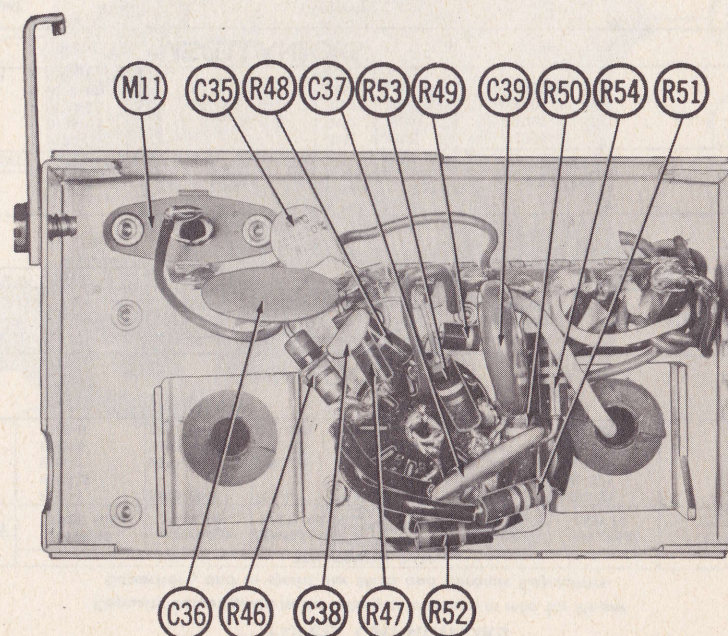
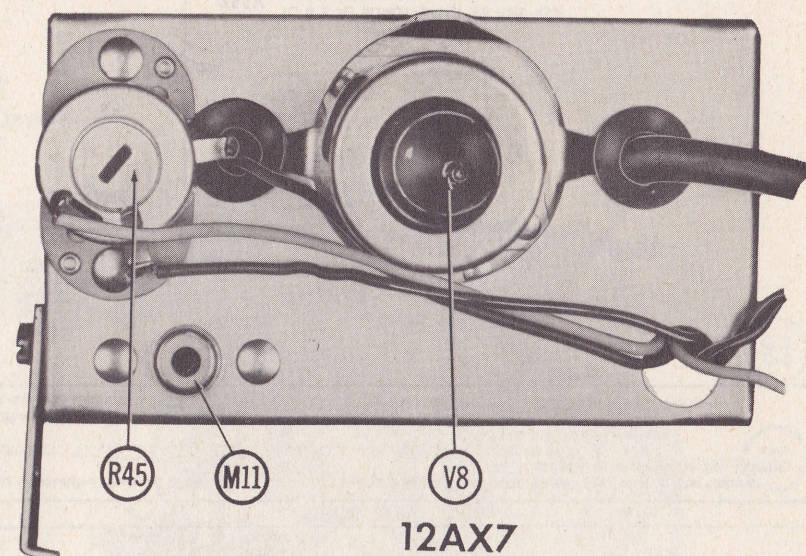
ITEM No.	USE	TYPE	NOTES
V7	Detector -AVC	6AV6	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT	REVERE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C27	50000		B114-11	BPD-05	DF-503			5HK-S5	
C28	47		B111-2	NP0-D147	DD-470	L10Q47		5TCC-Q47	10%
C29	10		B111-3	N750-D110	DTN-10	C10Q1U	NT-541	5TCU-Q1	N750 10%
C30	15000		B114-2	BPD-015	DD16-153			5HK-S15	
C31A	10000		B114-9	BPD-2X01	DD-103	BYD6DS1	DC511	5HK-2S1	
C32	.22		B110-2		DD-103		DC511		
C33A	10000		B114-9	BPD-2X01	DD-103	BYD6DS1	DC511	5HK-2S1	
C34	.68		B110-3		TCZ-R88				

STEREO CHASSIS



TUNER PARTS LIST AND DESCRIPTIONS (continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REVERE PART No.	NOTES	ITEM No.	RATING		REVERE PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R35	22K		B103-7		R40	4700Ω	2	B102-11	
R36	3300Ω		B102-10		R41	220Ω		B101-2	
R37	3300Ω		B102-10		R42	4.7meg		B105-3	
R38	1meg		B105-1		R43	470K		B104-9	
R39	18K	2	B103-13		R44	10K		B103-2	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		REVERE PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L2	Loop Stick	C133-3					
L3	Parasitic Choke	A133-4					
L4	Osc. Coil	A132-9			70-Osc*		Wound on 1000Ω Resistor
L5	Input IF	A132-4	16-6758	BC-352	12-C1	RF-1	* Disregard primary
L6	Output IF	A132-5	16-6758	BC-353	12-C2	RF-2	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	REVERE PART No.	REPLACEMENT DATA
K2	Diode RF Filter	50mmf, 50mmf, 47K	A177-5	Aerovox PA-99 Centralab PC-52 Cornell-Dubilier 111TM3 Sprague D-3

MISCELLANEOUS

ITEM No.	PART NAME	REVERE PART No.	NOTES
M10	Tuning Cap.	A142-1	2 Gang, (Ant. 23-220mmf, Osc. 14-132mmf)

STEREO PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V8	Preamplifier	12AX7	

Pin	12AX7
No.	V8
1	500K
2	10meg
3	10Ω
4	25Ω
5	25Ω
6	†100K
7	10meg
8	0Ω
9	25Ω

ITEM No.	USE	TYPE	NOTES

STEREO PARTS LIST AND DESCRIPTIONS (continued)

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REVERE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
	CAP.	VOLT							
C35	100		B112-1	BPD-0001	DD-101	L10T1	UC-531	5GA-T1	
C36	25000		B114-10					TG-S25	
C37	10000		B114-1	BPD-01	DD-103	BYA6S1	DC511	5HK-S1	
C38	470		B112-5	BPD-00047	DD-471	BYA10T47	UC-5347	5GA-T47	
C39	50000		B114-11	BPD-05	DF-503			5HK-S5	

CONTROLS

ITEM No.	RATING		REVERE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
	RESISTANCE	WATTS						
R45	250Ω	2(WW)	A140-13					Hum Balance

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

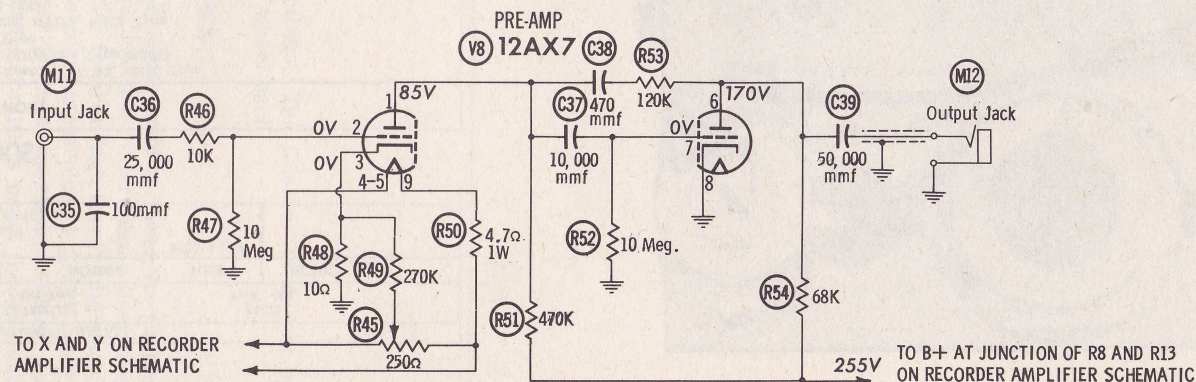
ITEM No.	RATING		REVERE PART No.	NOTES	ITEM No.	RATING		REVERE PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R46	10K		B103-2		R51	470K		B104-8	
R47	10meg		B105-5		R52	10meg		B105-5	
R48	10Ω		B100-5		R53	120K		B104-3	
R49	270K		B104-16		R54	68K		B103-11	
R50	4.7Ω	1	B100-1						

MISCELLANEOUS

ITEM No.	PART NAME	REVERE PART No.	NOTES
M11	Jack	A174-8	Input
M12	Jack	A174-25	Output

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
 8524 (Stranded) Available in Ten Colors
 Power Cord Use BELDEN No. 1765-B (6 Ft. Length)
 1725-K (7½ Ft. Length)
 Low-Loss Shielded Lead (Interconnecting)..... Use BELDEN No. 8401
 Phono Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor - Twisted)



MECHANICAL PARTS LIST

Ref. No.	Part No.	Description
1	C1-12358	Top Plate Assembly; Consists Of:
2	R-311017	Top Stamped Cover
3	A1-12370	Top Plastic & Name Plate Ass'y.
4	A1-12362	Rear Head Cover
5	C15-11152	Small Cleanout Cover
6	TR-7251	Pan Head Screw, #6-32 x 7/32
7	TR-7251	Pan Head Screw, #6-32 x 7/32
8	A4-11073	Screw, Top Plate
9	A9-11136	Wood Screw, Top Plate
10	B15-11156	Knob, High Speed
11	TR-7427	#4-40 Screw (Fillister Head)
12	A2-12399	Knob, Two Speed Control
13	A1-12360	Knob, On-Off-Volume Control
14	B15-11155	Knob, Tone Control
15	A12-11178	Nameplate, On-Off-Volume Control
16	A1-12361	Knob, Function
17	A9-12315	Grip Ring, 1/4" Shaft
18	A13-14111	Brake Arm Spring
19	A1-14095	Left Brake Arm Assembly
20	A15-14064	Nylon Brake Roller
21	A13-14077	Brake Roller Leaf Spring
22	A13-14076	Brake Hold Lever Spring
23	A4-14074	Brake Arm Spacer
24	TR-7513	Flat Washer
25	A13-14075	Instant Stop Spring
26	A1-14096	Right Brake Arm Assembly
27	A15-14064	Nylon Brake Roller
28	A13-14077	Brake Roller Leaf Spring
29	A4-14074	Brake Arm Spacer
30	TR-7513	Flat Washer
31	TR-7933	Rear Cam Slide Assembly
32	A15-14087	Spindle Cap
33	A8-14400	Washer, Karapack
34	A1-14097	Rewind Spindle Assembly
35	A30-11094	Spindle Tire
36	A30-11101	Counter Drive Belt
37	TR-7504	Washer, Fibre
38	TR-7517	Washer, Phenol
39	A1-14519	Rewind Spindle Arm Group
40	TR-7604	Spring, Rewind Arm
41	A15-14087	Spindle Cap
42	A1-14516	Spindle Cup & High Speed Drum Ass'y.
43	A30-11094	Spindle Tire
44	TR-7418	Screw, #8-32 (Hex Head)
45	A9-11888	"E" Ring, 3/16" Shaft
46	TR-7117	Spring Arm
46A	TR-7601	Pressure Roller Spring
47	A13-11205	Spring, Toggle Arm
48	C1-11197	Upper Mechanism Plate Assembly
48A	A13-12416	Detent Spring
49	TR-7525	"E" Ring, 5/16" Shaft
50	A4-11061	Function Shaft
50A	TR-7507	Washer, Fibre
51	TR-7521	"E" Ring, 5/32 Shaft
52	TR-7517	Washer, Fibre
53	A30-14068	Pressure Roller Ass'y.
54	TR-7418	Screw, #8-32 (Hex Head)
55	TR-7418	Screw, #8-32 (Hex Head)
56	A4-11060	Record Lock Release Button
56A	A9-11110	Roll Pin, Record Lock
57	A3-11003	Function Shaft Bracket

Ref. No.	Part No.	Description
57A	A13-14127	Pawl Spring
58	TR-7507	Washer, Fibre
59	TR-7525	"E" Ring, 5/16" Shaft
60	A3-11010	Record Lock Pawl
61	TR-2614	Record Lock Spring
62	A14-14127	Spring, Function Cam Lock
63	B3-11008	Function Cam Pawl
64	B3-11009	Function Cam Lock
65	A3-11005	High Speed Trip Lever
66	A13-11200	Spring, High Speed Trip Lever
67	A1-14081	Instant Stop Arm
68	TR-7445	Screw, #8-32 (Truss Head)
69	TR-2631	Washer, Steel
70	TR-7267	Instant Stop Arm Bushing
71	A9-11888	"E" Ring, 3/16" Shaft
72	TR-7505	Washer, Fibre
73	A3-11002	Cam Arm Drive
74	TR-7524	"E" Ring, 1/4" Shaft
75	A1-12369	Function Arm Assembly
76	TR-7445	Screw, #8-32 (Truss Head)
77	A3-12375	7 1/2 ips Idler Actuating Cam
78	A4-11229	Link Spacer
79	A1-12353	Function Cam Assembly
80	TR-7507	Washer, Fibre
81	TR-7605	Idler Drive Spring
82	A9-10960	Speed Nut
83	A9-11888	"E" Ring, 3/16" Shaft
84	TR-7517	Washer, Phenol
85	B1-14506	Flywheel Idler & Slide Assembly
86	A9-11888	"E" Ring, 3/16" Shaft
87	TR-7517	Washer, Phenol
88	A9-10960	Speed Nut
89	TR-7616	Rapid Forward Idler Spring
90	B1-14509	Idler Slide Group, Rapid Forward
91	TR-7425	Screw, #4-40 (Binding Head) Used in early versions of Model T-1100.
	A-14-1057	Screw, #3-48 x 1/8" (Used in later versions of Model T-1100 & all versions of Model T-1120)
92	TR-7150	Head Spring Retainer (Used in early versions of Model T-1100)
	A-13-14320	Head Spring Retainer (Used in later versions of Model T-1100 & all versions of Model T-1120)
93	TR-7249	Head Spring Retainer Insulating Stud (Used in early versions of Model T-1100)
	A-4-14360	Head Spring Retainer Insulating Stud (Used in later versions of Model T-1100)
	A-9-14565	Head Spring Retainer Insulating Stud (Used in Model T-1120)
94	C-161-1	Play-Record-Erase Head (Used in all versions of Model T-1100)
	C-161-4	In-Line Stacked Head (Used in Model T-1120)
95	TR-7520	"E" Ring, 1/8" Shaft
96	TR-7916	Erase Pressure Pad Assembly
97	A-1-14218	Record Pressure Pad Assembly
98	TR-7615	Erase Pad Spring
99	TR-7610	Record Pad Spring
100	TR-7429	Head Alignment Screw
101	TR-7136	Head Aligning Plate

REVERSE
MODELS T-1100, T-1120, TR-1200

FOLDER 15

MECHANICAL PARTS LIST (Cont.)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
102	TR-7922	Pressure Roller Arm Assembly	136	P-1329	"E" Ring, 3/8" Shaft
103	A13-11203	Pressure Roller Arm Spring	137	A13-14481	Compression Spring
104	TR-7931	High Speed Forward Idler Arm Ass'y.	138	TR-7504	Washer, Phenol
105	A1-12363	High Speed Slide Arm Assembly	139	A8-14004	Flat Washer, Nylon
106	P-1428	Washer, Steel	140	TR-7506	Washer, Fibre
107	B1-14135	High Speed Idler Assembly	141	B3-11196	Slide Cam Connector Arm
108	TR-7524	"E" Ring, 1/4" Shaft	142	TR-7507	Washer, Fibre
109	P-1428	Washer, Steel	143	TR-7419	Screw, #8-32 (Sems Truss Head)
110	A1-12424	Flywheel Idler (7 1/2 ips)	144	TR-7445	Screw, #8-32 (Truss Head)
111	TR-7524	"E" Ring, 1/4" Shaft	145	R9-11100	Tape Counter
112	TR-7517	Washer, Fibre	146	B15-11157	Counter Reset Knob
113	TR-7817	Take-Up Clutch Felt	147	A9-10289	Crescent Retaining Ring
114	TR-7110	Clutch Plate	148	A3-11011	Switch Actuating Arm
115	A1-14515	Take-Up Pulley Assembly	149	A4-12385	Speed Control Shaft
116	TR-7520	"E" Ring, 1/8" Shaft	150	A15-12406	Cam Roller Guide
117	TR-7514	Flat Washer, Steel	151	A3-11011	Switch Actuating Arm
118	TR-7115	Take-Up Clutch Lever	151A	A3-12415	Switch Actuating Arm
119	A9-11888	"E" Ring, 3/16" Shaft	152	TR-7517	Washer, Fibre
120	TR-7607	Spring	153	A9-11159	Spring Washer
121	TR-7912	Toggle Arm Assembly	154	A9-11888	"E" Ring, 3/16" Shaft
122	A9-11888	"E" Ring, 3/16" Shaft	155	A3-12381	Amplifier Speed Change Switch Arm
123	TR-7809	Take-Up Belt	156	TR-7419	Screw, #8-32 (Sems Truss Head)
124	A1-12423	Capstan & Flywheel Assembly	157	A3-11011	Function Switch Actuating Arm
125	TR-2431	Ball Bearing (Flywheel)	158	A9-11108	Roll Pin, 1/8" x 1"
126	A1-12424	Flywheel Idler (3 3/4 ips)	159	A17-11129	Set Screw, 10-32 x 1/4"
126A	TR-7505	Washer, Fibre	160	A13-11203	Detent Spring
127	TR-7616	3 3/4 ips Idler Spring	161	A9-11888	"E" Ring, 3/16" Shaft
128	A3-12379	3 3/4 ips Idler Slide	162	A9-11184	Hex Nut (Keps)
129	TR-7517	Washer, Fibre	163	C1-10083	Motor, 110V, 60 Cycles.
130	A9-11888	"E" Ring, 3/16" Shaft	164	B3-11056	Motor Fan
131	A4-12393	Motor Pulley	165	C-1-11206	Lower Mechanism Plate Sub-Assembly
132	A9-11888	"E" Ring, 3/16" Shaft	166	A8-10472	Flywheel Thrust Washer
133	TR-7504	Washer, Fibre	167	A15-1400	Odometer Worm Gear
134	A15-14000	Tape Counter Worm Gear	168	A15-12392	Slide Guide
135	TR-7504	Washer Fibre			

AUXILIARY PARTS LIST

Part No.	Description
A196-10	Hi-Fi Connecting Cable
A196-1	Attachment Cord
TRA-1256	Microphone P.A. Extension Cord (Three Circuit Plug)
A196-2	Regular Microphone Extension Cord
TE-401	Ear Phone
TF-902	Foot Control
A162-2	Microphone Assembly
TR-2601	Spare Pressure Pads